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# *The Green Thumb*

COLORADO'S GARDEN MAGAZINE



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## THE PRESIDENT'S PAGE

ON behalf of the directors of the Association, we give our appreciation for the response to the open letter in the November Green Thumb. Some phoned to the office, others have given their ideas to George Kelly and officers of the Association and a number of fine letters have been received. Extracts from some of these letters will be printed in the Green Thumb occasionally. Our thanks to you. We hope you will continue to give us your ideas, and your needs in the gardening line. Also if you have had an interesting experience with some plant or method of culture, why not try your hand at describing it for the benefit of other Green Thumbs.

The letters indicate that the Green Thumb is read—not all articles to be sure—but few persons read any magazine from cover to cover.

Some members are agreeable to a combination of issues occasionally. These and other ideas for the improvement of the Green Thumb will be left largely to the judgment of our editorial board, now in process of formation.

A small increase in the membership fee will not be objected to, according to most responses. The board has taken no action on this to date, as it is our desire to have the influence of the Association and its magazine reach as many as possible, with the objective in mind of a more beautiful city and state. If it is necessary to increase the minimum membership fee, notice will be given at least sixty days in advance, so that there will be opportunity to renew at the old rate during that period.

Action has been started on a horticulture conference and announcement of the date and place will be made soon.

Many persons favor the starting of a state park system in Colorado and the prospect for this looks a little brighter. The State Park Board Advisory Council which was set up about a year ago, at the instigation of the Colorado Forestry and Horticulture Association, is backing the State Park Board in an effort to get a legislative appropriation to make a survey of park possibilities, especially in the plains section of the state.

Greetings to all our members for a successful year ahead, with plenty of water for irrigation, with a minimum of insects and plant diseases, and favorable growing conditions.

Fred R. Johnson

Notice the membership blank printed on page 34. Use it to give a membership to a friend or relative.



*New Year's Greetings  
to the Many  
Green Thumb Patrons  
and to  
Our Customers*



**W. W. WILMORE  
NURSERIES**

West 38th Ave. & Wadsworth  
Harrison 4-5584





# The Green Thumb

Vol. 12

JANUARY, 1955

No. 1



## Colorado Forestry and Horticulture Association

Organized in 1884

"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

### OFFICERS

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Secretary-Treasurer.....Spiro L. Nickolas  
Editor.....George W. Kelly

## Green Thumbs to All Doctors and Dentists

Several weeks ago the membership committee mailed a copy of the Green Thumb to all doctors and dentists in the Denver area, with the suggestion that they take out a membership so that they might have the magazine in their waiting rooms where all could benefit from it.

If you would remind your doctor of this, tell them that you are a member and suggest that he would be doing his patients a service by making this garden magazine available to them; many new memberships might result. Thank you.

## Notice! Next Green Thumb

As now planned the next issue of the Green Thumb will come out about the middle of February and will be an extra large combined issue with February and March together. The theme of this issue will be *Planting* and the aim will be to make it a manual of all information necessary for the new home owner to plan, select, plant and maintain the trees,

shrubs, lawns and flowers necessary to ornament their grounds.

Better order an extra copy now to give to that son or friend's son who is moving into a new home.

## Garden Workshop in March

Plans are now being made for an all day *garden workshop* to be held March 12 in the Phipps Auditorium. This will be in place of the Rocky Mountain Horticultural Conferences held in past years.

The workshop will be equally sponsored by all organizations interested in horticulture such as garden clubs, trade organizations, special plant societies and colleges. Save the date and tell others.

The talks will be short and important, given by the best experts available.

## Annual Dinner

Plans are now being made to hold the Association's annual dinner and business meeting some time in late January or early February. Definite notice of time, place and program will be given later.



Your Cooperation Is Needed

As we have no financial support from any governmental agency, the life of this organization and the services that it gives are dependent on memberships, gifts and benefits such as garden tours and auctions. This is the season when most memberships expire, and bills have been sent out from this office to all old members. If you believe that this organization helps you or helps the community will you do your part by renewing promptly and by telling others of the Association's work and asking them to become a member? As we want the largest number possible to benefit from the Green Thumb, the Helen Fowler Library and the advice to be had at Horticulture House we have held the minimum (\$3.00) membership down to way below actual cost. If a large number of old members would take out the higher memberships (\$5.00 and up) we would be able to continue and improve our services.

In many gardens, more vegetables are grown than are necessary. It takes only a short row of radishes or parsley to keep a family well supplied. If your property is small it rarely pays to grow such space-consumers as corn, eggplant and lima beans. On the other hand carrots, beats, onions, beets, cabbage, kohlrabi, broccoli, rhubarb and the like can be grown efficiently in a small space.

NEW MEMBERSHIPS RECEIVED

November

- Mr. and Mrs. Charles F. Haselton, 7885 W. 60th Ave., Arvada, Colo.
- Ben T. Leonard, 5855 S. Fox St., Littleton, Colo.
- Mr. Paul Honour, 3235 Kearney, Denver 7, Colo.
- Mrs. W. W. Cavnar, 101 Jasmine, Denver 20, Colo.
- Harry H. Mumm, 3265 S. Fox St., Englewood, Colo.
- Mrs. R. R. MacDonald, 401 W. 10th St., Loveland, Colo.
- East Jefferson Men's Garden Club, E. A. Johnson, Sec'y, 3700 Benton St., Denver 14, Colo.
- Paul H. Rule, 5441 S. Sherman St., Littleton, Colo.
- Mrs. E. J. Merster, 5820 E. 1st Ave., Denver 20, Colo.
- Mrs. William K. Ris, 2058 Ivanhoe, Denver 7, Colo.
- Mrs. Lloyd R. Nuttall, 2010 Nelson St., Lakewood, Colo.
- James D. Thomas, M.D., 632 Metropolitan Bldg., Denver, Colo.
- Mrs. Jean Nash, 1974 South Meade, Denver 19, Colo.
- Mrs. Norman Baldrige, Eaton R 2, Colo.
- Dr. H. H. Reed, 1350 York St., Denver 6, Colo.
- W. J. Crider, 1225 Kline, Denver 15, Colo.
- Miss Grace Ogle, 4480 S. Pennsylvania St., Denver 16, Colo.
- Ruth L. Gouge, M.D., 2738 S. Hooker St., Denver 19, Colo.
- Dr. and Mrs. Bruce Fickel, Berthoud, Colo.
- Dr. and Mrs. David McCarty, 351 Coffman St., Longmont, Colo.
- Mrs. Helen Small, 1516 Lafayette St., Denver 18, Colo.

GEORGE W. KELLY.....Editor  
BERTHA DURFEE .....Assistant  
MR. AND MRS. SPIRO L. NICKOLAS, Custodians  
MRS. HELEN FOWLER.....Librarian  
BERTHA DURFEE .....Assistant

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THE COLORADO FORESTRY AND HORTICULTURE ASSOCIATION  
A non-profit, privately financed Association.

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## A PEEK AT THE MAIL

*Below are printed some of the replies received to our request last month for suggestions as to how we may make the Association and its magazine more useful and reach more who need them.*

"The Green Thumb" magazine came today, and you asked for opinions of members, so here is mine.

Your magazine is superb in every way, one of the best horticultural publications available across the country. I'd hate to see it curtailed in any way. Increase price if necessary, but don't cut material, if possible. Your special issues, Rose, Lawns and Trees were well worth a dollar a copy for they are the best compact material, in existence along this line. No book ever contained so much vital factual information in concise form. I enjoy Cherry's Diary every month. I feel you serve the amateur gardener better than any other garden magazine in existence these days.

Bess Hardy, Garden Editor  
Dayton Daily News

I have read your open letter to members and though I am only a supporting member I feel that you should know my desires concerning your questionnaire and my own hopes for the organization.

First, The Green Thumb could be printed on stock more economical than the present slick. One way to interest large numbers of people in supporting the magazine certainly is not to increase its subrate.

I am a reader of The Green Thumb though my interests run more to the vegetable garden or fruit orchard.

What features do I like? Those articles which deal with conservation practices, policies, philosophy and action, viz. Echo Park Dam, natural fertilizing, etc. I would like to see the magazine do more de-bunking of information on soils, chemical ferti-

lizers, tree, shrub and lawn care along with weed control.

The "preservation of natural beauty;" "the protection of the forests;" "the proper maintenance and additional planting of trees, shrubs and gardens;" "making available correct information regarding forestry, horticultural practices" and "co-ordinating the knowledge and experience of foresters, etc." is an annual undertaking since the sinister forces who are opposed generally to conservation work throughout the year. No, let's not miss an issue.

It is my studied opinion that a forestry association, particularly one placed so near the great watershed of the Continental Divide could not reasonably be expected to shirk so clear a mandate as the imperative need for agitation, propaganda and action, action and more action locally on a state and national scale through legislatures and by every other legal means to preserve and restore our ravaged watersheds and raped soils and cleanse our poisoned and polluted streams and inland bodies of water.

To match the tempo of the anti-conservationists, The Green Thumb would have to devote at least half of the pages to conservation. But a magazine is only one form of struggle.

The raising of the membership from \$3.00 to \$5.00, etc., solves nothing but *one* technical problem of the magazine *only*. Important as the printed word is, the objectives of the association are the more pressing of the two.

Hopefully I submit that what might help is committees on many conceiv-

able phases of a functioning Forestry and Horticulture Association. Maybe a little less formal and timid in our approach to overall problems which affect the great majority of people and much more aggressive in our stand with regard to those who have stolen or are now stealing the natural resources of this, our America.

J. H. Fowler, Publicity Director  
The Organic Gardening Club of  
Denver.

In response to November "Open Letter" I suggest:

1. Combining November and December issues and also January and February.

2. No increase in dues to new members.

3. Continue to publish same type of articles as in past.

4. Drive to get some good state parks and increase kind and quality of roadside parks.

Keep up your good work.

S. van T. Jester

## DO YOU NEED HELP IN PLANT IDENTIFICATION?

Several people have been suggesting that since we now have two excellent new keys available for use in identifying local plants of the plains and mountains, that we should have a course covering fundamentals. A plan is under way for such a course to be offered by Dr. Moras L. Schubert through the University of Denver Community College. The tentative program is to make it start in early February and run for 15 weeks, meeting for three hours an evening each week. Week-end field trips could be arranged when the growing season begins. The tuition fee for

the training would be only \$30, since no credit will be recorded. In order to give the best help to all who take the course, regardless of previous botanical training, there will be a limit of about 20 adults and the first to ask for a place in the class will be included. To make reservations, phone Horticulture House, TA 5-3410 any week day between nine o'clock and four.

## ARE YOU A GARDENER?

Do you believe that working with plants is good for you both physically and mentally? Do you believe that everyone is benefitted by planting trees, grass and flowers around their homes?

Are you doing anything to help the thousands of new home-owners to get the most benefit from plants? Are you helping any new gardener to learn the "secrets" of good gardening and to learn the peculiarities of Colorado climate, so that they will get the best results from their efforts and money.

Why not take a few hours and talk to a few of your young friends and your neighbors. Tell them of the work that we are doing in the Colorado Forestry and Horticulture Association to help them. Tell them of the Green Thumb that is published for their benefit. Since the work of the Association is carried out with no government support, ask them to take out memberships and help in a small way to pay for all these services. Show them how that they may save hundreds of dollars in their landscaping by learning how to do each operation of gardening in the right way.

Be a garden missionary, and make others, and at the same time yourself, happy.

## SOIL

*The three following short articles were written several years ago by the late D. M. Andrews. They are printed here through the courtesy of Mary Andrews. Mr. Andrews was a Colorado pioneer in all things horticultural and botanical. Many of the things that he discovered many years ago are now just being recognized by good gardeners.*

### THE ACRE ON WHICH WE LIVE

One should go to the mountains for first lessons in the formation of soil, which is the fundamental mechanism of horticulture. Without soil there would be no horticulture, gardens or flowers, and without proper soil elements, moisture, light and warmth, the soil must function in an imperfect and unsatisfactory manner.

When a rocky cliff is shaken by seismic disturbance or broken down by frost, the talus thus formed is at first nothing but broken rocks, incapable of supporting ordinary plant growth. The first change is the incrustation upon the rocks by lichens,

*The Navajo Twins near Bluff, Utah, showing typical talus at base of cliff.*



which in turn collect dust blown by wind and settled firmly by rains, until mosses, ferns and tufts of grass may find a safe footing.

The surface of the "rock mill" has begun the cycle of life, death and decay, starting with the humblest of vegetative forms, and has produced soil. The talus now supports many forms of vegetation, each of which contributes its organic remains to form a deeper and richer stratum of blackish, peaty humus vital with its life-giving elements. Each plant sharing its own loss that life shall much more abound.

In some such manner erosion by wind and water has brought about a mingling of earthy elements, sand and clay with humus, so that fields formed upon the level portions of our land may support plant life.

Even in winter the tangled turf of roots and stems of the native heath prevents the inroads of wind and flood, and in a century or two, or in many centuries has laid down a top dressing of organic loam, the basic requirement of agriculture.

The objective of this article is not so much to warn against destructive methods of agriculture, which are flagrantly all too prevalent, as it is to know the soil consistently, intimately if one may, and with that knowledge determine the best use to which one's acre, fractional or multiple, may be put.

The native plants of a locality may be indicators of soil elements. Indeed, this is more often true than not. Blueberries and Rhododendrons in the



highlands of the Eastern mountain range, indicate a rather definite degree of acidity. In California the *Franklinia*, a maritime or saline plant, is characteristic of the "gooselands". Its presence indicates an excess of Glauber's Salts in the soil and unsuitability for the raising of wheat. Simple alkalinity, not excessive, favors the production of alfalfa and Sugar Beets, but not of strawberries or spuds, the latter preferring a degree of acidity above neutral. In the Sand Hills along the South Platte in Colorado, the Sage, *artemisia filifolia*, grows on elevations of neutral soil, while the Salt Bush, *Atriplex canescens* grows in alkaline depressions a yard or two lower, the Sage being intolerant of the small differential in amount of alkali within the space of a few feet.

The summary of a country-wide survey of soil conditions will show that a generous one-third of the U. S. west of the one hundredth meridian, will test largely alkaline, while the eastern two-thirds of this country is almost as consistently acid, except for wavering streamers of alkalinity extending past the border line from the West. If asked the cause, I would suggest that the West is newer geologically, that basic elements are more abundant at the surface, and that a meager rainfall has not yet washed these elements from the soil into drainage channels, away from their detrimental influence over plant growth.

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## TREATMENT OF ALKALINE SOILS

The highly alkaline soils in portions of the West offer a serious problem to the gardener. At first thought it would appear that enough acid could be applied to change the pH



*Mosses, ferns and tufts of grass gain a foothold in the cracks of the rocks.*

reading as required; but this leaves the basic salts in the soil, though possibly in a less detrimental form.

The direct damage to many plants from excessive alkalinity is a condition known as chlorosis; indicated by a yellowing of the foliage and a withering and browning of the leaf edges. Chlorosis is a deficiency of food elements in terms of assimilation, particularly of nitrogen; caused by the inhibitory effect of excess alkali, although there may be an ample supply of all food elements in the soil. It is not so very unlike a person seated at a table well laden with desirable food, but with his hands tied so that he is unable to partake of nourishment.

Chlorosis is not immediately fatal. It is at least an indication that all is not well and remedial measures should be started quite promptly. Several things are to be observed. Chlorosis usually results from an accumulation of Alkali, an increasing amount coming into the affected plant zone. If a tree, as for example the Soft Maple, the excess may come from the impregnation of an alkaline subsoil through irrigation; capillarity bringing it to the feeding roots near the

surface. If alkaline water has been used for irrigation, an accumulation may have arisen through lack of drainage. Deep tile drainage is indicated in either case, if an outlet can be secured. Then apply acidulating substances such as aluminum sulphate (3 oz. per square yard), Iron Sulphate (2 oz. per square yard), measuring the spread of branches or the area of the garden. A few weeks later test the soil and if still alkaline repeat with the same amount. Acid applications to a poorly drained alkaline garden will seldom afford permanent relief. The rather drastic remedy in such case is to remove the garden to a more favorable location, preferably to a higher level where drainage alone may in time effect a cure against moderate alkali.

If a change in the location of the garden cannot be contemplated, a less drastic measure would be to modify the embodiment of the garden to include a portion at least of the alkali-tolerant natives, both shrubs and herbaceous material.

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## TREATMENT OF ACID SOILS

The unqualified assumption of soil acidity by the correspondents of eastern horticultural journals, has doubtless resulted in harm often times to western gardens, when applications of lime must result in the traditional addition of insult to injury. Any gratuitous advice of this sort should be accepted by readers only upon a full knowledge of their own soil problems. The determination of soil reactions is so simple these days that the price of a half dozen plants will pay for a test kit that will eliminate any doubt of your own garden's requirements, and save the cost many times over. In this connection the

use of coal ashes as a soil conditioner may be mentioned, but here also a test of the ashes should be made previous to use. The ash of Colorado lignite coals is alkaline to a very dangerous degree, and under no circumstances should it be used on the garden.

Even upon an acid soil should lime stone (commercial) be used with caution, applying only half the amount believed desirable, more being added after a few weeks if a soil test indicates further treatment. For most garden plants a pH reading of  $6\frac{1}{2}$  is better than exact neutrality, which is pH 7. A list of plant preferences as regards acidity will be included usually with the test kit, and a reading which verges toward the greatest maximum permitted, acidity is usually best. To increase acidity apply peat, tannic acid, aluminum sulphate, powdered sulphur, etc., as required. Usually peat together with aluminum sulphate, using the latter with caution will yield best results. It is perhaps obvious that the grouping of plants according to similar requirements will be most successful, and that an optimum once obtained, should be retested once or twice during the season, as artificial conditions tend to revert.

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## Helen Fowler's Garden Notes

**CAUTION**—do not attempt to train your evergreens into grotesque shapes and forms. Such practices have no place in American gardens.

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**Question**—Can climbing roses be used for hedges? Yes, up to eight feet or more if the right kinds are used. Climbing roses are of easy culture. They should be planted in a hole dug at least two feet square and also as deep.

Heavy clinging snow will often break evergreen branches if allowed to remain on them; it ought to be knocked off if damage of this sort is to be avoided.

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If a warm, moist day comes along set the house plants out on the ledge or porch for a few hours. They will benefit by both the dampness and fresh air.

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The object of winter mulches is to prevent thawing and resultant heaving of the soil and root breakage and consequently should be applied only after heavy freezing.

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If autumn leaves fall on an established ground cover planting it is not essential to rake them out from between plants, if, however drifts of leaves cover the entire planting it is advisable to remove at least some of them. Those allowed to remain may detract somewhat from the planting during the winter, but in the spring the warmth and moisture will hasten the decay of the leaves into beneficial humus. In a few weeks new foliage on the plants will create an entirely satisfying picture. Ground covers as a rule are heavy feeders and decaying leaves supply an abundant source of organic matter.

While gardening work is slack, it would be a good idea to paint all the implement handles a uniform and distinct color. This will preserve them and aid in identification if they are borrowed.

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## SOIL VS. DIRT

I had a call from that fine old gardener, Martin Keul, a few days ago. He said that he was beginning to resent being called a good dirt gardener. He thought that the synonymous use of "Soil" and "Dirt" was wrong.

Soil, he explained was a living thing, full of microorganisms and a product of Nature from which all plant life grew to feed and clothe the world. But, Dirt, might not be soil at all. It was usually a product of man. The greasy soot that settles on the windowsill, the stuff that is swept up in gutters and the conversation heard in beer joints. Soil suggests all that is good, the flowers, and grass and trees and vegetables; while Dirt suggests all that is bad. I think that Martin's idea that we should not use the term "dirt" when we mean "soil" is a very good idea.

GEORGE W. KELLY

\* \* \* \* \*

## BUDS

*No season of the year need be without plant interest. Take the early spring when we are most concerned with buds. The presence of the dormant bud gives us assurance of the renewal of life and growth in the days ahead. Small though they may be, buds have individual character.*

*So, in the early spring examine the buds. Notice the large bloom buds on the lilacs, maples and elms. They are all ready to expand with the arrival of the first warm week. Examine the tiny rose-like buds of the spruce and compare them with the sharp red buds of the Douglasfir. Feel the large red buds of the Buckeye and notice that they are dry while those of its cousin, the Horse Chestnut are sticky. Look at the tiny puff-ball bloom-buds of the early spireas and note the difference between them and the still smaller leaf buds.*

*Yes, buds may be very interesting.*

## PROPER GRADING CAN "MAKE" YOUR GARDEN

By M. WALTER PESMAN, *Landscape Architect*

QUEER,—isn't it,—that the same substance does so many things to our garden by different names? When it is good or bad soil, it determines what you can grow. When it's dirt, it suggests being hauled away or brought in. When its *earth*, we think of something precious, *real estate* something to be sold, *land* something to be surveyed, *ground* something stable.

So now let us talk about one of its most important aspects, and call it surface or ground surface. Its proper modeling can make your garden, lack of imagination in modeling it, can change it into the commonplace, "that which the landscape architect likes not to have".

Aside from this question of design, there is a very important thing to remember; proper grading can save the home owner a large sum of precious money, and careless grading may be most expensive as well as causing future troubles. Proper advice in this phase of the development is of the utmost value.

Let us begin with some fundamentals, simple as they may sound. The two important ones are proper drainage and separating good and bad soil.

Drainage is generally surface drainage, meaning the getting rid of excess water without its doing damage to the foundation or to parts of the garden. Occasionally we may have to provide for underground drainage, but that requires a special treatment and need hardly be considered for the average home ground.

We are lucky in Denver and in most of Colorado in not having to

cope with extreme conditions of flatness or grade. Both are difficult.

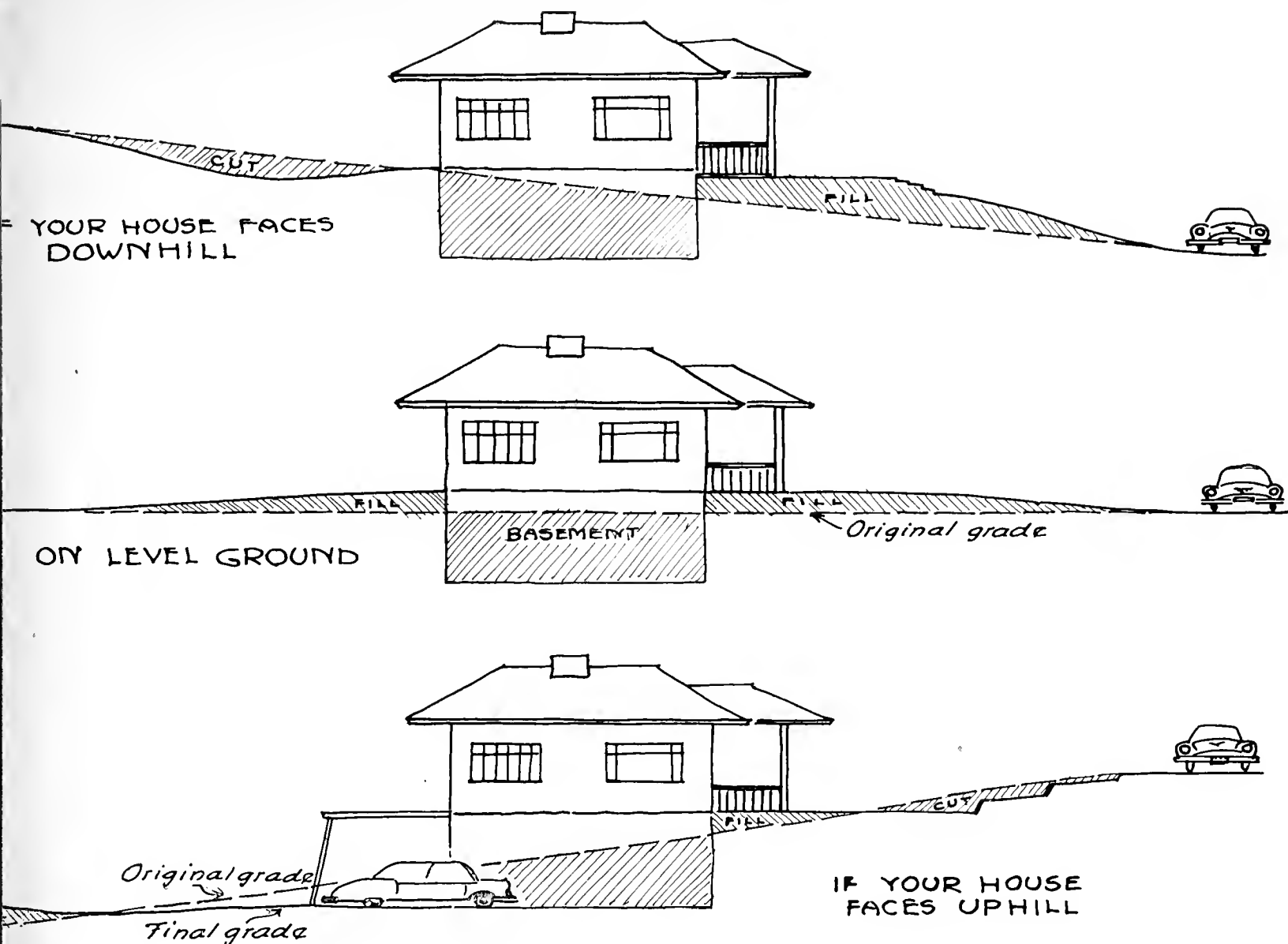
The illustrations give an idea about the logical grading for a slope from rear to street, a flat piece of ground, and the awkward situation of a lot sloping from the street down. In any one of these cases the main principle is drainage away from the house.

The excavation for the basement helps out to overcome a flat area where the water might collect after a rain; the resulting ground can be spread around the house, thus creating a little hill pleasingly sloping down to the boundaries of the lot. Sure enough, its simplicity is paid for by a lack of interest which will have to be overcome in some other landscaping way. (We'll talk about the problem of topsoil a little later).

A slope toward the street front naturally suggests a flattened surface,—patio, or lawn—, separated from the main front lawn by a number of interesting steps. The latter might easily be graded into an O-gee shape, as shown,—always a pleasing flowing surface. In order to prevent water from collecting against the rear of the house, we must excavate for a distance of say ten feet from the foundation. Of course, we must provide for continued drainage from this excavation toward the side of the lot. The foundation of the house should always be 12 or 15 inches higher than the immediate surrounding.

This rear garden has many possibilities for retaining walls, different-level gardens, interesting steps, even rock garden outcrops. Hardly anything will be more pleasing to the eye





than a change in grade, even if it is only a matter of inches. Italian gardens abound in this sort of beauty; they often arrange for running water in cascades over the slopes and terraces. A small garden can accomplish such interest at a small cost. Use your imagination!

The most difficult problem is that where the ground slopes away from the front toward the house. Imagine looking down on the roof of the house from the sidewalk. The front of the house, at least, should be kept on as high a level as possible, even if the rear is brought down to a different level. A clever architect may design a two-story rear and one-story front on such a location.

Here again the drainage must be away from the foundation all around, even if it means a fill near by and a cut close to the public area. We can prevent the appearance of a house-in-

a-hole by a large flat space around it. Let the bank or retaining wall come close to the street, and let it be unobtrusive. (For an illustration notice the Capitol grounds as seen from Grant Street; there is quite a difference in elevation, but few people are conscious of it).

If there should be some extra dirt from the excavation, we might consider building up the rear boundary, even if a retaining wall should be indicated: a drop-off into space is never a pleasant garden feature, unless you control the area beyond, or where a magnificent mountain view dominates the scene. I have seen very successful solutions of this difficulty by the use of solid brick or stone walls, or by grape-stake fences.

The drawings shown are merely suggestions; any clever designer can find a number of variations. The important thing to keep in mind, how-

ever, is the drainage for a distance of ten feet from the foundation, and the necessity of keeping the ground floor at an elevation where there is little difficulty of "balancing cut and fill". Moving dirt twice is needlessly expensive. Many a home budget has been buried deep in grading.

What about all this talk about the importance of "top-soil?" Is it really necessary to pile up the topsoil for later use?

Yes and no. It is true that our western soils have generally a less definite change from top-soil to subsoil than soils in humid climates. Our subsoil may be rich in minerals, though poor in organic matter; it may be improved, in many cases, by adding manure, compost, or even such substances as krilium.

While the excavation is going on, we should examine this subsoil and find out how good or poor it is. Certainly poor sand is not apt to make good garden soil, and impervious shale will take a long time to decompose. But many other subsoils may be passible. And yet—Why not pile up the upper layer of an excavation, the layer that has been built up through the centuries into a good growing soil,—and use it as a top dressing? It does not cost too much if it is thought of at the beginning! Proper planning is the secret!

More iniquitous than this "sub-soil" is what often has been called "contractors' soil". Every builder collects a lot of it. You will find it in spots where the cement mixer or plaster mixer was located, underneath the windows, where the carpenter, plumber, plasterer and decorator has thrown it out. If you don't catch it in time, you'll find it for the next years and years neatly covered up by a layer of topsoil, hidden from view,

but betraying its presence by poor spots in lawn and flower beds where plants don't grow well.

"Contractors' soil" in other words, is a mixture of lime, plaster and everything that has gone into the building, and that should not go into the grounds. Remove every bit of it if you want relief from "wondering". And don't wait until the house is finished. Replace it by good topsoil. Then, before starting garden operations, give the whole surface a good watering to find spots that need settling, such as ditches where sewer pipes or water pipes are buried. The same process of watering the entire surface will test the slopes. There should be no puddles of standing water anywhere, especially not near the house; and there should be no such steep slopes as to cause erosion.

What to do with steep slopes is always a problem. In general we need not worry about any slope up to one in ten,—that is a one foot drop in a distance of ten feet or more. One in seven becomes more difficult, one in four becomes a problem.

It is a constant source of wonder to me why people will continue to make these steep banks in a lawn: they are difficult to construct, difficult to mow, difficult to water and seldom good-looking. In other words: grass terraces seem like the least ingenious way of overcoming a difference in elevation. When they are of a height of over three feet they are real nightmares to the lawn-man.

Retaining walls, on the other hand, fit the house, (they can be made of brick or stone) and fit the ground. they are almost fool-proof, and need no further maintenance, once constructed. Yes, the original cost may be higher than the average home

owner may want to pay, unless he has the forethought of having these retaining walls built at the same time as the house, by the same contractor and under the same contract. This means landscape planning at the beginning instead of waiting until all the money has been spent on "extras". Right?

Recently some clever methods have been devised for holding a steep bank by means of lengthwise planks, railroad ties, or other horizontal mechanism. Flower borders of this type may be quite effective.

Rocks for holding a slope may be attractive or hideous, depending on the skill of the rock garden builder. Again, the secret is often in the stratification of the rocks. Nature does it, why shouldn't we? Sometimes just a few rocks at just the right spots may create an interesting feature in a naturalistic garden design. Some native shrubs nestling against such rocks, a patch of bulbs, an oriental poppy or even an evergreen may cause the eye to stop in an otherwise uninteresting and monotonous scene. But it takes an artist to place such rocks just where they will "do the job".

So can well designed steps act as attention-getters, if they are in combination with retaining walls or terraces, or even in a naturalistic rock setting.

All these details of the proper grading plan help the general layout. On the whole a flat surface is an uninteresting surface. Graceful slopes, terraces, steps, retaining walls, variety in levels,—all these are aids to a delightful garden that remains in your memory. Not only can proper grading save you money, it can also "make your garden".

## WE BEGIN AND END WITH THE SOIL

I hear some gardeners joining in the chorus of lamentations heard every day—"What's the use planning for next year, everything will be destroyed, Civilization is doomed", and that sort of thing.

Gardeners, of all people, should have the most faith—they must have faith every year that the seeds will sprout, that the rains will come and that the insects can be controlled. They work with the fundamental things—the soil, living plants and the weather. These things are not governed by selfish and foolish men but by the laws of Nature which cannot be changed. When houses are burned and factories destroyed and governments changed the people must start right back where they did originally—with the soil—the soil to grow their food and the land on which to build their homes and schools.

Gardeners are not naturally interested in the destruction caused by war, they are interested in construction. Gardeners do not start wars and if the gardeners of the world had their say there would need be no war.

We must plan for the worst that can happen, that is sure, but we need not start quitting now. There have been wars before and the gardeners with faith have had to rebuild their countries.

We must preserve the seed of flowers and grass and trees, with faith that we can grow them again. If we could not have that faith in a better world what would be the use of fighting? Flowers, and lawns and trees have always been the symbol of permanence and civilization and construction—the opposite of war and destruction. We must maintain these things to come back to when we have finished our foolish fighting.

## THE COMPOST PILE

*What is it, what is its use and how is it used?*

HELEN FOWLER

**C**OMPOST is a kind of manure made up of many varieties of material such as leaves, lawn clippings, worn out tops of perennial and annual plants, table scraps and straw; and sometimes, to make it even better, farm yard manure, peat moss, sand and top-soil are added.

When decomposed its purpose is to have on hand a source of organic fertilizer valuable for shrubs, trees, perennial borders and lawns.\* The amount to be used depends on the condition of the soil at the time of applying and also on the season of the year when used,—a heavy dressing before winter, less heavy in the spring and for summer several very light applications. Always keep in mind that soil fertility is kept up by

the constant use of humus. This must be done if our gardens are to flourish.

Humus itself adds little fertilizer to the soil; its chief function is to hasten the decomposition of locked-up chemicals necessary to sustain plant life. If the soil is light the compost should contain a large percentage of topsoil in order to retain moisture; if soil is heavy then sand is better. This will gradually work down into the soil making it also more porous to absorb moisture.

Many gardeners do not maintain a compost heap because of their place being too small and also that it is likely to be unsightly. No place is too small for the riches of a compost pile and it never need injure the landscape. It can be put in the vege-

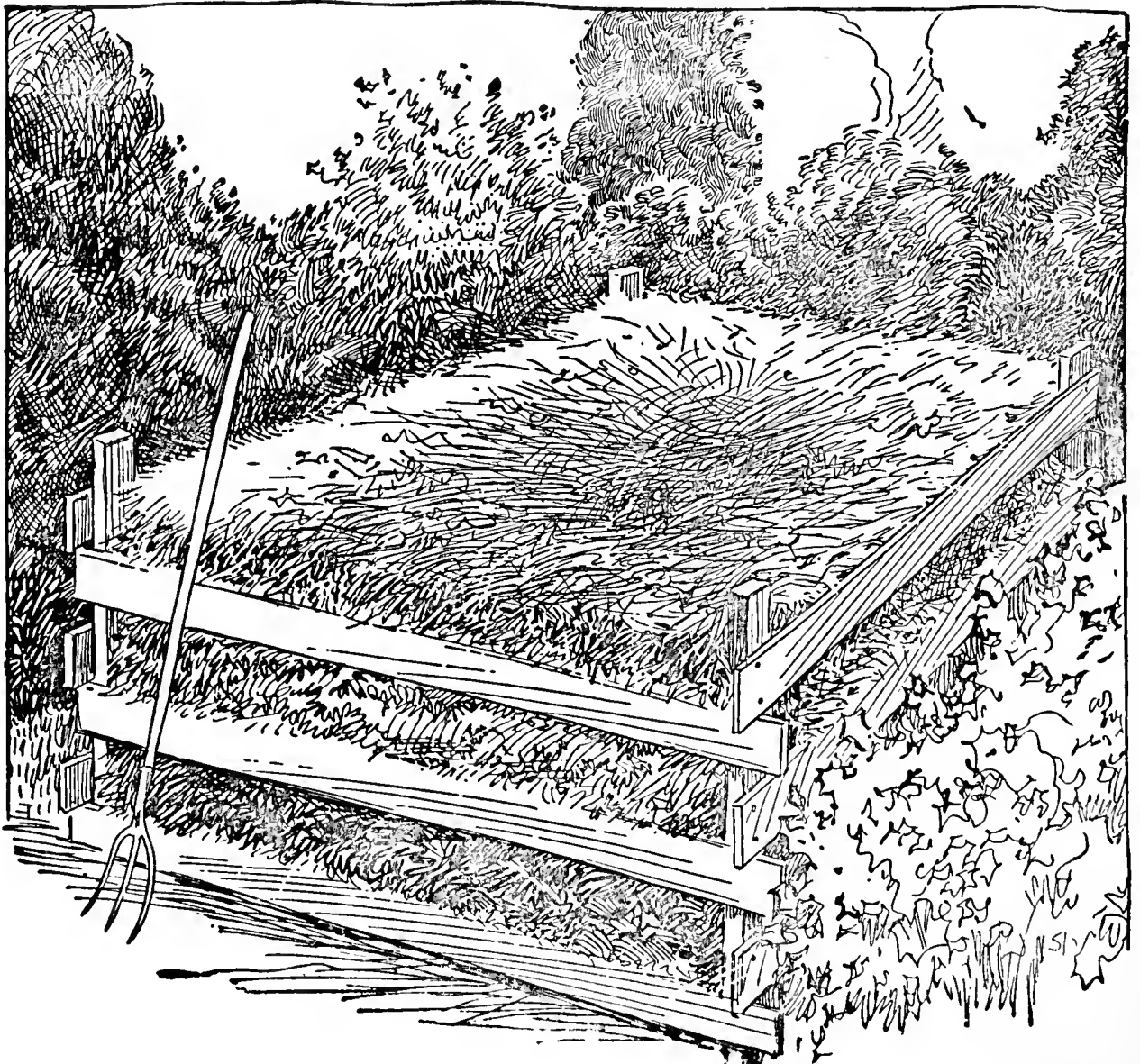


table garden or to the side or back of the garage or in any out-of-the-way corner hidden by shrubs, Tartarian Honeysuckles or Lilacs or any other shrub that does a good job at screening. A tall hedge could be used. A trellis could be built for perennial vines to provide an effective screen.

I have found it better to make the pile pyramidal in shape in order that it shed rain and snow. Four to six feet is about high enough for the average garden. If a larger amount is needed, it should be made long and narrow. Be sure to leave enough room for comfort in working and ease in wheeling out to the garden.

The pile should be forked over occasionally and watered often with the hose. By adding a small amount of acid phosphate as the different layers are built up, any disagreeable odor is entirely avoided. A little ammonium sulphate will hasten the decomposition.

You will never regret having a compost heap. You really make something wonderful out of nothing and at the same time get rid of old vegetation which gives gardeners trouble many times during the year.

Take a trip outside now and see where you will build your compost pile. Varro, the celebrated Roman, who lived fifty years before Christ, reveals in his writings that each Roman farmer kept up, not only one permanent compost pile, but two.

\* TURF MANAGEMENT is a new book in our horticultural library. There are many others containing chapters of valuable information on the making of compost.

## INSECT CONTROL MEETING

The annual meeting of the Rocky Mountain Forest Pest Advisory Committee was held at Horticulture House on November 15. Twenty-six state and federal entomologists, patholo-

gists and researchers, timbermen and arborists, heard reports on forest insect epidemics in this region.

No sooner had the Engelmann Spruce beetle epidemic on the White River and adjacent National Forest been controlled than this same beetle appeared miles away in the Uncompahgre and San Juan Forests. In 1952 and 1953 approximately 70 million board feet of spruce were killed on 24,000 acres.

Some control work was done in 1953, and during the past summer control measures were undertaken on a large scale. About 172,000 trees were sprayed with a water emulsion of ethylene dibromide at a cost of \$3.67 per tree. Considering that each tree must be sprayed to a height of 20 feet and that the infestation occurred in a high, rough and rugged country where there are few roads, one can get an idea of the difficulties of the job. Another 42,000 trees were logged by timber operators or as trap trees.

The experts are hopeful of quelling the infestation in 1955, and plan to spray about 300,000 trees and have loggers cut 50,000 trees.

The Black Hills beetle, which attacks ponderosa pine, continues its destructive work, mostly on eastern slope forests, and 16,071 trees were chemically treated in 1954.

Few persons realize the damage that insects cause in our forests. One expert stated that about as many trees are killed in the forests of the United States annually by insects as by fire.

Julian Bucher, Kremmling timber operator, is chairman of the group and E. A. Snow of the Forest Service, Denver is secretary. George Kelly, John W. Swingle, George Stadler and Fred R. Johnson, Association members, attended the sessions.

—F. R. J.



## THE INDWELLING SPIRIT

By FRAN DUTY

*"Our Lord has written the promise of  
the resurrection, not in books alone,  
but in every leaf in spring-time."*

—Martin Luther

POST columnist Mary Margaret McBride recently discussed the case of a mother explaining the death of a loved aunt to a little five-year-old boy. She chose a true symbol of everlasting life—a sleek, brown tulip bulb.

She carefully explained to the child how the bulb was to be carefully planted in the earth; how, after a few months it would awaken from its "sleep" and how it would eventually burst forth into bloom. The child watched this phenomenon take place over the weeks, and in this simple analogy he gained an understanding of the mystery, commenting happily, "I'll bet Aunt Alice is beautiful in heaven!"

Botanists say that "a bulb is a storehouse containing a new plant, plus food and energy sufficient to carry it to maturity." All bulbs do seem to share a necromantic ability to burst into full panoplied bloom. If we cut through the successive layers of a bulb lengthwise, we can see one of the mysteries of life in evolution. In the heart of the bulb, completely sheathed with tiny leaves, is the next generation's miniature embryo flower on a stalk, with another tiny life-bud at its base.

This same promise of the resurrection is found in another familiar example of Nature. The early 19th century apostle of the wilderness, Johnny Appleseed, travelled in the settlements of the Middle West planting a promise of beauty in the thou-

sands of apple seeds and seedlings he distributed.

He was loved by all, but the children especially loved the stories he spun for them. Taking out his penknife, he would split open a tiny appleseed, exposing its heart; and although its tiny secret was too minute to be seen even with the keenest eyes, they all knew Johnny was telling the truth when he assured them it was there, a tiny embryo apple tree, fully formed, complete with foliage, waiting only to be planted at the right season.

Johnny had satisfied himself of the existence of this miraculous proof of the cycle of growth and life, long before, so he could tell his listeners of this indwelling spirit quite truthfully.

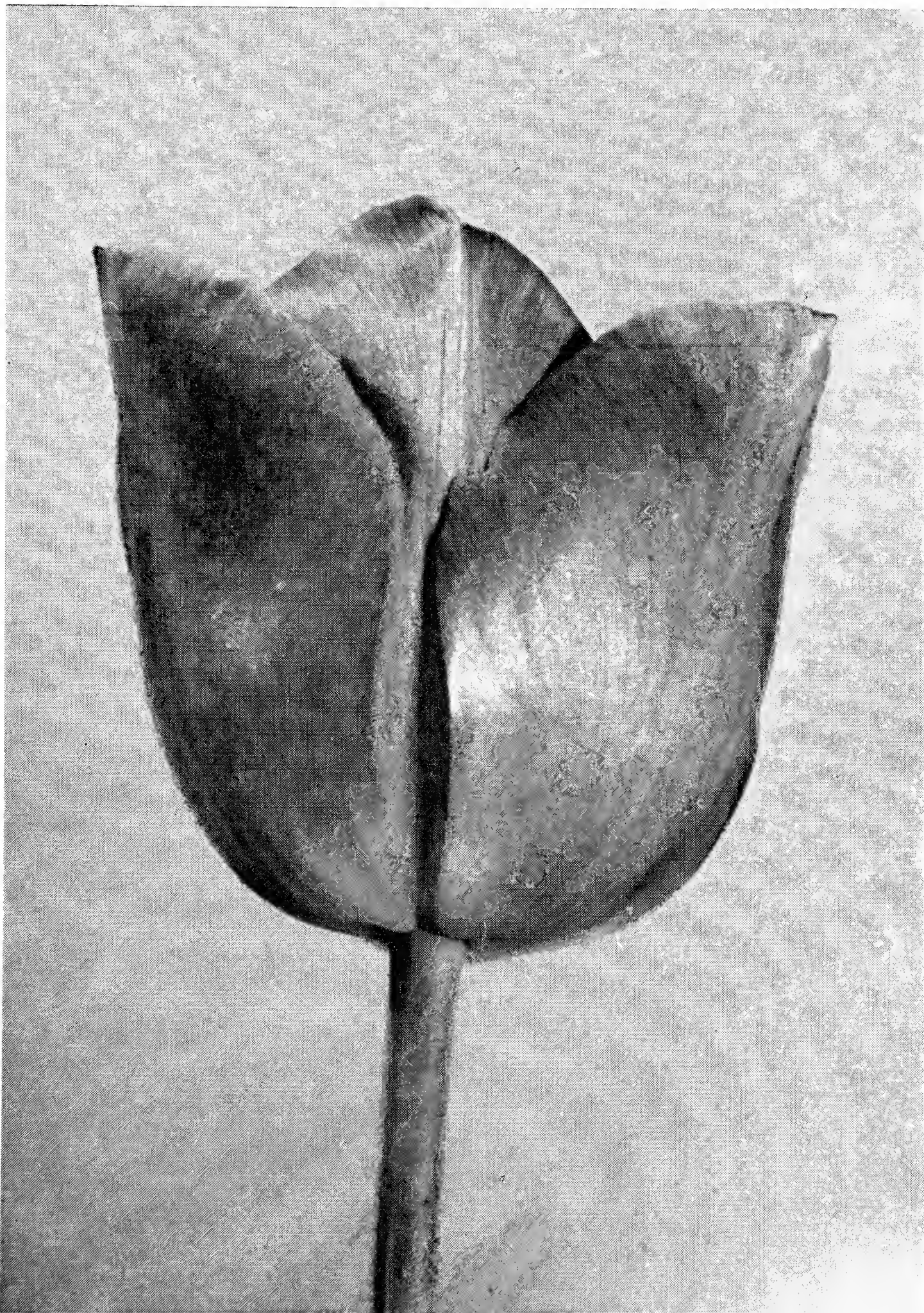
About twenty miles below Marietta, on an island in the Ohio River, an English scientist named Harman Blennerhasset had built a home and a fully equipped laboratory, where he could continue his scientific studies, after it had become necessary for him to leave his native England.

Johnny had planted an apple orchard on Blennerhasset's Island, and as he travelled through the Valley every year, checking the growth and needs of his plantings, he sometimes stopped overnight to rest and to talk with these friends. It was for the amusement of one of the Blennerhasset children that he had put one of his tiny brown seeds beneath the powerful lens of the microscope in their father's laboratory. He had

then seen for himself how symbolic but complete Nature's plan is, in the revelation of the tiny embryo in the heart of the little hard sheath of the apple seed.

Long ago, Washington Irving

wrote that "it is the divinity within that makes the divinity without," and in his simple reasoning, Johnny Appleseed had discovered that God's handwriting is in the soul of every bit of beauty about us, a joy forever.







## ROOTS

THE picture above shows a couple of the roots of the native Bush Morning Glory, *Ipomea leptophylla*). These originally grew on the plains and foothills in the Denver area and may still be found in undisturbed places. They form a perennial bush top about three feet high and equally broad, in most cases.

They are well adapted to growing in an area of limited and unreliable rainfall, for they form an enormous root, with age, which is able to store up enough water from one good rain to last the plant a year or two. Running into one of them while plowing is just like hitting a large stump or rock. In starvation times the Indians ate them, but they are not likely to become a popular source of food for they taste much like a well worn rope.

This is a dramatic example of the provisions that plants must make to survive in a land of small rainfall. Other plants of the area may have other provisions for storing water or doing without it. The cactus store water in their stems and require few roots. Yuccas have narrow, tough leaves that evaporate little water and

they also have deep fleshy roots. Plants like the Indian Breadroot, *Psoralea tenuifolia*, and others in the pea family may have roots which go very deep in search of subsoil moisture. The cultivated plants in this family such as alfalfa and sweet clover may have roots 15 feet or more deep.

Other plants of the plains and desert may be able to sprout their seeds, grow a plant, bloom and ripen their seed, all from one good rain. This is why the desert sometimes suddenly seems to come into bloom and at other times is quite dry and barren.

Gardeners in the area may learn a lesson from these original plants when they stop to realize that most of the plants that are grown for ornamentals come originally from a climate where there is plenty of rain or snow and the air is not so dry. We must try to approximate in our gardens the conditions where these plants originated if we will keep them happy here.

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## AUTUMN TREE CHORES

WINTER is a critical period for shade trees and ornamental shrubs. The hazards are varied in nature, may affect almost any plant species or individual, and the injury may range from slight to severe. Much of the damage stemming from winter weather can be prevented or minimized if plants are given some attention in the fall and prepared, as well as possible, to withstand adverse conditions. Hence, the autumn work schedule should include the following items:

*Artificial support.* Branch breakage and splitting of the tree trunk at structurally weak, narrow crotches often occurs in wind, snow or ice storms. Elms are especially susceptible to injury of this nature. Such damage can be prevented, or held to a minimum, by installation of cables



and tree-rods. Branches of wide-spreading evergreen shrubs should be tied loosely with strips of soft cloth to prevent breakage or splitting at the crotches from weight of snow or ice. Stakes and guy wires used to support newly planted trees should be checked and tightened where needed, and the earth should be firmed around the base of the trunk.

*Pruning.* All dead wood, branch stubs and broken, diseased or dying branches should be removed. Pendulous branches should be pruned judiciously to lighten the weight. Branches occasionally cross and rub against each other; the one of least importance to the shape of the tree should be removed or otherwise treated. Young trees frequently develop two leaders with a tight, V-shaped crotch; one of these should be pruned out so that the tree will develop with a single, central stem. Sprout growth around the base of the trunk should be removed. Fall-blooming shrubs should be pruned now, *but not those that blossom in the spring*. Light pruning to shape evergreens may be done in the fall.

*Watering.* Abundant moisture in the root zone aids all plants in withstanding the vicissitudes of winter; it is particularly important in the case of evergreens and newly planted trees and shrubs. Hence, water such plants deeply before the ground freezes; turn on the hose and let the water run slowly until the soil is thoroughly soaked to a depth of twelve or more inches.

*Mulch.* A supplement to watering is properly applied mulch material. It not only retards evaporation and conserves moisture, but also tends to stabilize soil temperature which is important where tender plants are involved. Using hay, straw or similar material, spread the mulch to a depth

of four or five inches over the ground, extending from the trunk to well beyond the spread of the roots. Poultry wire netting may be used to keep it in place.

*Rodents.* Young fruit trees and certain species of ornamentals are subject to mouse and rabbit damage during the winter. This can be prevented by erecting a screen of hardware cloth, about  $\frac{1}{4}$ -inch mesh, around the trunk. It should extend from slightly below the ground to a height of about two feet.

*Protection from wind and sun.* Many ornamentals, both evergreen and deciduous species, that are not fully hardy climatically often are used in home landscaping. These are particularly subject to injury from the drying effects of winter winds and sun, and extreme fluctuations in temperature. Screens of burlap, canvas or evergreen boughs erected to serve as a combination windbreak and sunshade tend to prevent such injury. These screens should be left in place until spring has definitely arrived.

From *The Shade Tree Digest*, as presented by *Swingle Tree Surgery Co.*

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## Professional Study Classes

Mr. Clair Robinson has organized a series of study classes for those who want to know more about all the various aspects of horticulture. Young men and women who have work with nurseries, seed stores or city parks will find these sessions very beneficial. The group will meet each Tuesday evening at Horticulture House from 7:30 to 9:30. The first hour will be reserved for individual study in the library and the second hour will be discussion led by an expert in some phase of horticulture. Any one interested is invited and the financial requirements are small.



## COLORADO BLUE SPRUCE, *Picea pungens*

**A**LSO called just Blue Spruce or Colorado Spruce and sometimes Silver Spruce or Water Spruce.

The state tree of Colorado. Grows in a slender, conical shape, often to a height of 80 feet or more. Stiff and formal in appearance.

Cones may be  $2\frac{1}{2}$ -4 inches long and  $1\frac{1}{4}$  inches in diameter, with a usual length of  $3\frac{1}{2}$  inches. They are made up of light brown, papery scales, overlapped like shingles. Cones are borne only on the top branches of larger trees.

Needles are single, sharp, square, stiff and spreading. (These words starting with "S" as in spruce, help children to tell this tree from the firs, whose needles are "flat, like Fir"). Length is usually  $1\frac{1}{4}$  inches

and color of new needles may be from green to silvery-blue. Older stems are rough like a grater from stubs left where needles have fallen.

Bark on young trees smooth but on larger trees becomes furrowed and thick. Side limbs horizontal or slanting slightly upwards, and sometimes arranged in whorls around the trunk adding to the general stiff appearance. Winter buds light brown and like a miniature rose.

Grows generally as a specimen tree along streams in moist rich soil, but sometimes in small groves. Altitude range 5,000 to 9,000 feet, and found all over the state at this altitude.

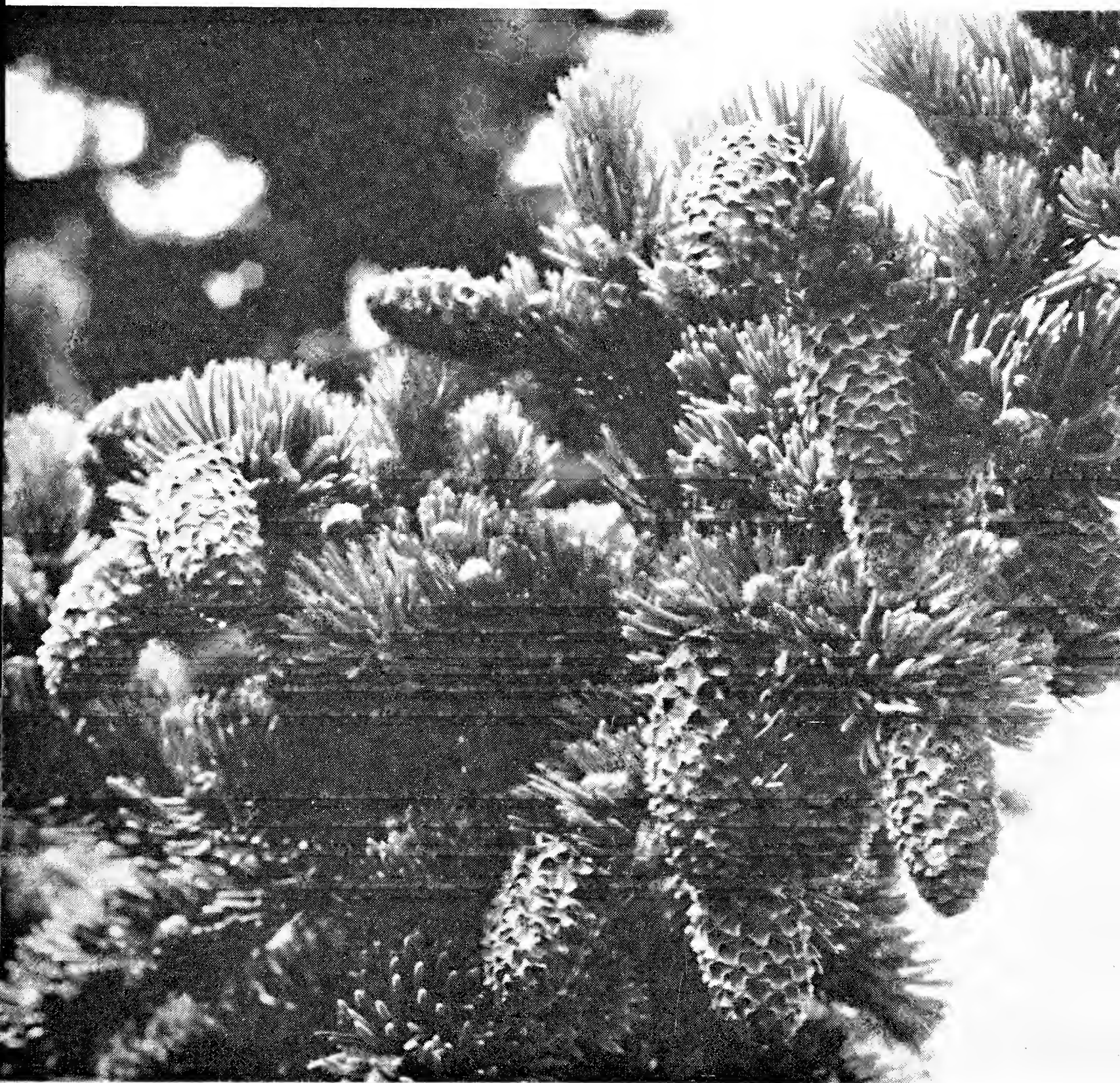
Although these trees grow to good timber size the lumber from them is poor and seldom harvested. Its principal use is as an ornamental, because



of its symmetrical shape and beautiful blue color.

Where it overlaps the range of the Engelmann Spruce it may be difficult to distinguish, but where cones are found this makes a positive identification, as the Englemann cones are half or less in size. Other characteristics that may help to distinguish the two spruces are: Blue grow as specimens along streams below 9,000 feet,

and Engelmann in solid forests on north slopes above 9,000 feet. Englemann needles are not as stiff, usually curved and not often as blue. New twigs of Blue are generally smooth, while Engelmann may be covered with fine fuzz. Blue may have numerous small twigs starting from the main trunk while Englemann lack these. Bark of old Engelmann is usually scaly rather than ridged as in Blue.



## CHRISTMAS TREES AFTER CHRISTMAS

**T**O what good use can Christmas trees be put when the Yuletide festivities are past? The useful life of a cut evergreen is distinctly limited, of course, but it can be extended considerably beyond the few days it serves as a symbol of Christmas. And though the second period of service of the erstwhile Christmas tree may be somewhat less glamorous than its earlier role, it often yields very satisfying returns.

Many conservation organizations advocate using discarded Christmas trees to help wildlife survive through the winter months. A favored winter habitat of birds, and many other forms of wildlife, is a clump of thickly-branched evergreens growing close together. These conditions often can be simulated with discarded Christmas trees, and excellent wildlife shelters provided.

Individual families can use their Christmas tree to attract birds to their yard by making it a feeding station. The tree should be fastened solidly in

its natural upright position in a spot where, for greater interest, its visitors can be observed from the window. Sharp sand or grit should be placed in containers, or scattered on the ground, at the base of the tree. And drinking water should be provided. Then, on the tree branches or to nails driven into the trunk, ear corn, chunks of beef or lamb suet, cranberries and dried fruit may be fastened. If the tree has cones, they may be smeared with a mixture of peanut butter and corn meal. Sunflower seed, raisins, cracked corn, wheat and similar grains, bread crumbs and table scraps may be scattered on the ground. A Christmas tree so used will delight the birds and the members of the family throughout the winter.

Christmas trees may be used to provide a windbreak and sunshade for semi-hardy plants. Both broad- and narrow-leaved evergreen plants that are likely to suffer from winter injury can be protected in similar manner. Branches may be lopped from the Christmas tree and used to advantage as mulch material over the root-spread of newly planted trees and shrubs, established evergreen shrubs and perennials. Or, the branches may be used to decorate a fireplace when not in use, and to afford extra cheer and fragrance when the fire is lighted. Cones and fronds may be sprayed with various chemicals such as borax, barium chloride, copper oxide and others, to provide green, blue and purple flames when they are burned.

Perhaps you may decide to purchase a potted, living evergreen to serve as your Christmas tree this year. If so, it can be planted in your yard after the Holiday season, where it can remain to beautify your home increasingly as the years pass. Some





advance preparations should be made, however. The planting site should be carefully selected, and mulched heavily to facilitate planting in mid-winter. In selection of species, consideration should be given both to its desirability as a Christmas tree and as an ornamental in the location you have chosen. It should be kept in-

doors no longer than necessary for its role in Christmas celebrations, and during that time it should be kept well-watered and in as cool a spot as possible. It should be planted as soon as the Holiday season is over.

Reprinted from *The Shade Tree Digest* as presented by the *Swingle Tree Surgery Co.*

## AZALEAS

*How to Keep in Flower and How to Make Bloom Another Year*

HELEN FOWLER

SOMEWHERE, someone has observed that it would be an interesting job for some energetic statistician to figure out how many thousand dollars worth of potted plants find their way from the florists' shops to the ash barrel during the brief holiday season — begonias, cyclamens, roses, azaleas.

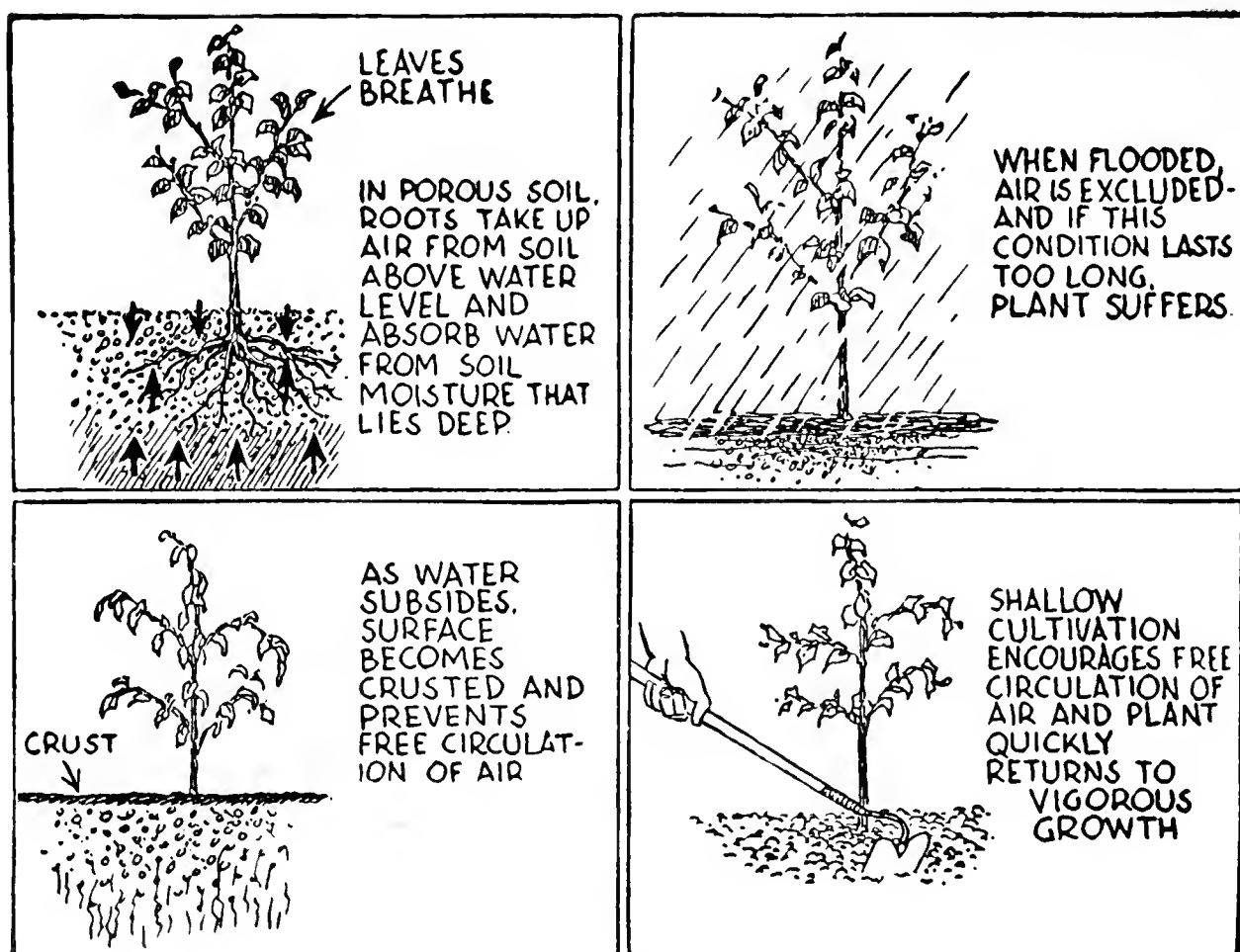
The florists take one year or more to prepare azaleas for the market so they are never cheap. They are generally considered the most beautiful of all holiday plants. When the azalea arrives it is full of buds, which need a cool atmosphere to develop.

In the excitement of Christmas you are likely to place the plant in the warm living room and leave it there; if you do the buds will dry up and the foliage will soon fade. Azaleas should have lots of fresh air but a cold, direct draft must be avoided. It requires an abundance of water; it is difficult to tell when the soil is dry, since the soil in the pot does not look like any other potted soil. The roots of azaleas are fibrous and grow so matted as to become almost impervious to water. To be sure that it is wet enough it should be put in a basin of water to let it take up all that it will.

Now what should be done to have this plant bloom again—it should be put in another pot, one size larger. The soil is made up of 50% loam, sand and leaf mold, the other 50% is peat moss as azaleas need acid soil. Loosen the plant's roots with the fingers and shake or wash off the old soil. After placing in the pot, fill it up to within one inch of the top to allow for water. It is now when the plant needs lots of water, then it must go without any for one full week, but the foliage should be sprinkled daily.

When there are signs of new growth, the roots must have still more water and be kept in a shady place where the temperature is not too high. When you know it has become thoroughly established keep it where it will get an abundance of light and air but no sun. Never let it lack for water.

As soon as the weather is warm enough in the spring it may be plunged in the shrubbery border in the shade, near the house where it will not be neglected. Just before the weather freezes it should be taken into the house again and kept cool until ready to force into flower. Give a little more heat and water now, and as the buds begin to swell apply liquid manure or nitrate of soda.



## Air In Soil Is Vital As Water, To Plant Roots

*Keep garden soil porous, and break up surface crust, to favor free entry of fresh air.*

**I**MPORTANCE of fresh air to garden plant roots has been stressed by recent scientific studies, which have proved that in porous soil the air down to a depth of eight inches is completely changed once every hour.

Both the leaves and roots of land plants breathe. When the soil in which they grow is flooded, air is excluded, and when this condition lasts too long the plant can drown, as surely as, though more slowly than, an animal which sinks under water.

As water sinks down and drains off, air reenters the porous soil, provided the surface of the soil allows free passage. But when the surface is compacted, as a result of wetting, baking in the sun or other causes, circulation of the air is checked, and the plants will suffer.

To loosen a compact or crusted surface and restore the free exchange of air is a chief purpose of cultivation.

The destruction of weeds is another. The former theory that cultivation is necessary to create a "dust mulch" on the soil to check evaporation of soil water is no longer widely held.

Experiments have definitely disposed of the old time theory that the deeper soil is cultivated the better, however. It seems to be established that an inch, or two inches at the most, is as deep as the hoe should go down. Stirring any deeper, particularly close to plants, may disturb the roots of growing plants and do more harm than good.

Mulches over the soil will serve the same purpose as cultivation, by preventing crust formation, and keeping fresh air in the soil. Good drainage is also stressed by the studies in aeration. Unless water runs off quickly, after a flooding rain, lack of air will injure and perhaps destroy the plants.

## AAA JOINS NATIONAL FIGHT AGAINST LITTER

**T**HE American Automobile Association has joined Keep America Beautiful, Inc., in the national fight against litter with a new waterproof litterbag available to local clubs through national headquarters in Washington, D. C.

This sturdy brown bag, nine inches wide and nearly fifteen inches deep, is designed to be carried in automobiles and used by motorists for waste paper and other litter, instead of throwing it out the window on the highway. When full, the bag is disposed of in a roadside trash receptacle or at home in the driver's own garbage can or incinerator.

It has already been used with good results by the Inland Automobile Association at Spokane, Washington, and the California State Automobile Association, where the CSAA slogan, "Don't Be A Litterbug," is printed on the bag together with full instructions for its use and disposal.

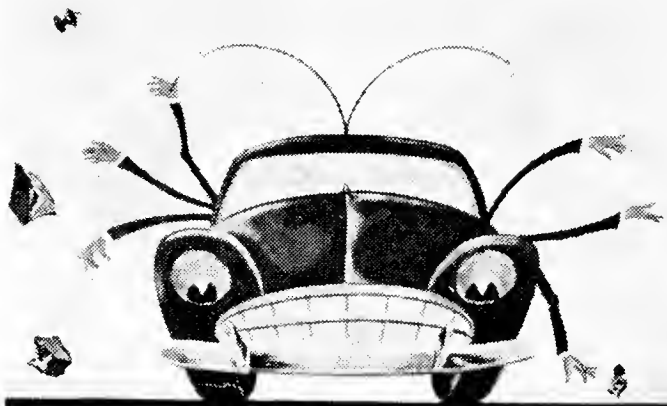
John C. Rose, executive director of Keep America Beautiful, Inc., a new national public service organization for the elimination of litter, praised the AA litterbug program for the nation's motorists. He said at KAB headquarters in New York City that the AAA had "struck at the heart of the problem of highway litter."

"The drivers of more than sixty millions cars and trucks on the nation's highways, together with their other occupants, have almost complete control over the problem of roadside litter," Mr. Rose commented.

"If they decided tomorrow to put their litter in a bag instead of on the road they could clean up our highways overnight."

The AAA is one of more than

# DON'T BE A LITTERBUG



# KEEP AMERICA BEAUTIFUL

thirty national public service organizations and agencies cooperating with KAB through its Advisory Council. Organized last winter in New York City, KAB has begun a long-range educational program designed to change the habits of people who litter. It is also working with other anti-litter groups as a clearing house and central coordinating agency.

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## WILL YOUR GRANDCHILDREN GO HUNGRY?

THE above is the title of a very thought-provoking story in the Saturday Evening Post of October 23, 1954, written by John Bird. Mr. Bird points out that at the present rate of increase in population, of about 70,000 per day, that within three generations the world population will be 7 billions, or three times the population today.

Today, he points out, there are only about 2½ billion acres of cropland being used or about an acre per person. In our country we now have about three acres per person, which is only slightly over the necessary amount to assure proper nourishment.

The sad part of this problem is that every day that we gain 70,000 new mouths to feed we lose about 40,000 acres of cropland, and the possible additional land that might, under some circumstances, be cultivated is only about one fourth the necessary amount to keep up with increased population.

He states that the U. S. has lost already about 35 million acres of once productive soil and each year sees another half million acres vanish because of erosion, deposit of worthless sand or sediment, waterlogging, salting or being covered with buildings and concrete developments.

He says, "Most serious of all, our good soil is losing its fertility and structure at such a rate, that unless corrected, about 121 million of our better acres will be of little value for cultivation in fifteen to thirty years. Another 128 million acres of fair to good land is degrading towards reduced productivity in fifteen to thirty years. Only about half of our cropland is free of this threat."

He continues, "Part of this soil deterioration comes from a steady across the board, loss of organic matter from our heavily cropped lands—a loss of the humus which gives the soil its tilth, or ability to absorb moisture, hold plant foods or resist erosion.



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At the same time a tremendous amount of organic matter flows from our cities and industries as waste, to become the bane of the countryside—these are the saw-dust piles, the sulphite liquors, the garbage and sewage that pollute and clog our streams, mar the landscape in dumps, and foul the air with stench and smoke." Much of our industrial or city waste can be converted into high-quality humus the soil needs so desperately.

Our big problem now is to put these wastes to work rebuilding our depleted soils.

Even with all the modern advances in nutrition, in fertilizers, in synthetic foods, in foods and water from the sea and all other methods we must expect to depend on the soil feeding our population for many years to come. This is one of the most serious problems to confront us today. The only other solution would be a series of man-killing wars that would keep the population down to the size that our soil could support.

## TREE TRIMMING & SPRAYING

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## Litterbugs on the Increase

It has been estimated that more than \$30,000,000 in Federal, State and County funds is spent annually in picking up litter on the Nation's highways, parks and beaches.



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## NEW BOOKS IN LIBRARY

Nov, 1954

### MANURES and FERTILIZERS

Soil Analysis, Inorganic fertilizers  
 Waste Organic Substances and  
 Principles of Manuring

### HOW TO KNOW THE GRASSES

Pictured Keys for determining the common and important American Grasses with suggestions and aids for their study.

By Richard W. Pohl  
 Assoc. Prof. of Botany at  
 Iowa State College

### PLANT BREEDING FOR EVERYONE

How to Plant and Develop new Plant Varieties

By John Y. Beaty  
 A former associate of Luther Burbank

## TURF MANAGEMENT

A BOOK BY H. BURTON MUSSER

The name "Musser" probably means little to you as do many of the authors of the new books at the horticultural library; however they are professors, scientists and as a rule authorities on subjects they represent. Mr. Musser is professor of agronomy at the School of Agriculture, Pen-

nsylvania State College and one of the leading authorities on turf in the United States. Experts from all parts of the country helped in this publication.

The book is fully illustrated and I know of no other devoted entirely to the development, care and upkeep of golf courses. It explains in detail the kind of grass to use, the best way of sowing and caring for different kinds of grass seeds. There is not one interested in fine lawns that will not get every good from this publication. It is modern, up-to-date and just off the press.—H. F.

## THE GARDEN DICTIONARY

HELEN FOWLER

The most valuable one-volume book we have in the horticultural library; it is really an encyclopedia—one of practical gardening, landscape design and outdoor management. A suggestion sent out to all contributors was the method adopted in this book. It read, "your article must not be written for the experts, but it must be apparent it was written by one." In this great work, Norman Taylor gave us one almost as valuable as "Bailey".

For writing the original of this edition, Taylor was awarded the most coveted prize in America, the Gold Medal of the Massachusetts Horticultural Society. The publishers of his new book—*Fragrance in the Garden*—say he has devoted a lifetime to gardening. In addition he has served many years on the scientific staff of the New York Botanic Garden also the Brooklyn Botanic Garden. He has written numerous books and magazine articles and most important, when the New Websters Dictionary was compiled, he served as its horticultural editor.

This Dictionary is the most valid and complete reference in garden nomenclature. The selection of plants found here is the work of many years; while it does not contain the names of all the plants cultivated, it does include most of those likely to be of interest to the average intelligent or even inquisitive amateur. To me its most considerable worth is its pronunciation—it is a most complete guide in the definition, pronunciation and spelling of all words pertinent to the flower and plant world; it also tells of the late general changes in the pronunciation of all latinized words.

Do not fail to turn to the Clematis by Spingarn, the greatest authority on this genus in America. We should make a study of vines, for we need more of them in our gardens.

---

## A BOOK ABOUT TREES

*(A very special group of trees)*

### "A NATURAL HISTORY OF WESTERN TREES"

Written by D. CULROSS PEATTIE

Reviewed by Helen Fowler.

We have many of Peattie's books in the library—"Green Laurels," "A Prairie Grove," "Flowering Earth" and others, all of them reading like horticultural novels. Peattie is just like that, benign, with a strong heart and of a mild type of character. He spent fifteen years preparing for this book. He graduated from the Gray Herbarium of Harvard and did much traveling in the east and in Europe. His books are translated into twenty other languages. Paul Landacre is the illustrator, who is also a trained naturalist, with prints exhibited in the Library of Congress, the Museum of Modern Art in New York and a half dozen other art museums.

In this book, Peattie describes the range, the leaf, flower, fruit and bark of every tree, two hundred of them. Do you know from what tree we get a very expensive perfume? What tree furnishes the world with lead pencils and matches? Hundreds of such questions are answered in the narrative.

Of the Pine there are 24 described with about half that number of firs.

"Western" in the title includes the area from the Pacific Coast states east to a line running south from North Dakota to Texas.

In his foreword the author writes, "the sylva of Western North America is the most impressive and humanely significant in the world. For here grow the tallest of all forest trees and the densest stands of merchantable timber. Foremost in the minds of those who have never seen our Pacific Coast are the two Sequoias—the California Redwood and the coast Redwood, which for age, girth and height are unsurpassed. But there are many other trees that closely rival them such as the Spruce, the Douglas Fir, the Sugar Pine, the Western Hemlock, the Oxford Cedar, each one the mightiest of its genus anywhere—and constitutes a forest that, greater than of any other equal area on earth, crowns the continent with natural splendor."

"A Natural History of Western Trees" has keys to species and genera, an excellent glossary (definitions of what might be considered the difficult words of the text), an index of both scientific and common names. It is an 8vo. book (a term used to indicate size) and it should one day become a permanent work of reference. It will be treasured not only as rich and lively reading, but as an example of distinguished book-making.

## URGENT MEMORANDUM TO ALL CONSERVATIONISTS

ON Wednesday, November 17, 1954, leaders of 28 national conservation, nature, garden and women's clubs, met in an all-day conference to coordinate their efforts in the fight to prevent the construction of Echo Park Dam. The conference was called by Mr. Sigurd F. Olson, President of the National Parks Association.

It was reported that the Upper Colorado River Commission and the Bureau of Reclamation, in addition to several senators and representatives, have announced that a bill will go before Congress early in January to authorize the Upper Colorado River Project, and that this bill probably will be essentially the same as the one introduced by several Western Senators in the last session of Congress, which was not brought to a vote upon the floor of either the House or Senate.

This bill calls for the construction of Echo Park Dam, which would flood out part of Dinosaur National Monument, as the first step in the \$15 billion Upper Colorado River Project.

The first phase, including construction of Echo Park Dam, is expected to cost in the neighborhood of \$1 billion, but — most important — it would establish the damaging precedent of using national parks and monuments for commercial purposes — and it is known that plans for such use, involving many parks and monuments, are already in the blueprint stage.

It is obvious, therefore, that every conservation-minded person, and everyone who is sincerely interested in saving our great national parks

system, should regard the Echo Park Dam crisis as a personal responsibility, and should do whatever is possible to call attention to the dangers that lie ahead. It is vitally important that Congressmen and Senators recognize the dangers inherent in the Upper Colorado River Project so long as Echo Park Dam is part of it.

At their meeting on November 17, the Conservationists established a clear-cut policy to guide all conservation-minded organizations and individuals in their activities during the coming year. The policy adopted is as follows:

1. The National Park System, established by law, is urgently needed and is increasingly being enjoyed and supported by millions of people. The Conservationists represent the public interest in the preservation of these areas. That is what brings us together in this crisis.

2. We are opposed to any legislation that would authorize building the proposed Echo Park Dam in the Dinosaur National Monument in northwestern Colorado and northeastern Utah—or any other dam that would flood any portion of any national park or monument.

3. We are mindful of the extreme importance of water in the West. And we are sincerely interested in any sound Upper Colorado water development that can effectively utilize the water without threatening the National Park System. We point out that the necessity for Echo Park Dam has never been demonstrated. It has only been asserted. We also point out that the alternatives to Echo Park Dam have never been adequately studied by the Bureau of

Reclamation, and have never been proved inferior.

4. We invite all citizens to join with us to make sure that areas set aside for preservation in the National Park System, are not needlessly invaded or despoiled.

**DO YOUR PART. HELP SAVE THE NATIONAL PARK SYSTEM.** Don't permit the needless flooding of Dinosaur National Monument.

This statement prepared by *The Council of Conservationists*, 161 East 42nd Street, New York 17, N. Y., a group of conservation leaders who are directing the campaign to alert Congress to the immediate and long-range dangers inherent in the proposed construction of Echo Park Dam as part of the Upper Colorado River Project. The Council urges every person who is opposed to the inclusion of Echo Park Dam in the Upper Colorado River Project to so advise his or her Senators and Congressman *as soon as possible* by personal contact, letter or wire.

## MEET THE NEW EDITORIAL BOARD

"How do you know you can't write?" That is how a number of magazine and newspaper ads start out. Well, we'll repeat it here.

Perhaps you'd like to send in some interesting material about gardens or gardening—your own or somebody else's—to the new Green Thumb. We now have more departments in which your article may fit best. A new Editorial Board has been set up to help Mr. Kelly in his editorial work—man-sized job!

Some of the members have special jobs to do, others are all-around-job men and women. M. Walter Pesman was elected as chairman; Mrs. Vella Conrad as "second-in-command"; Scott Wilmore is already doing a number of important jobs in connection with the coming deluxe number for February-March. Keep your eye peeled for that Planting

Number, it is set up as the most complete guide for home owners, nurserymen, seedsmen—anybody interested in spring planting.

How do you like the new layout for Special Departments? Most other gardening magazines find it helps the readers. Here are ours:

Seasonal Suggestions, in special charge of Moras Shubert.

Questions and Answers, Geo. Kelly  
Plant Miracles (Our Marvelous World of Plants), Helen Marsh Zeiner.

Horticultural Calendar of Events, Sue Kelly.

Here's the Mailman (A Peek at the Mail), Fred Johnson.

Junior Page, Lou Hammer.

Botanical Garden Page, Moras Shubert.

Vegetables and Fruits, Herbert Gundell.

The Corn Patch (for corny and other jokes), Bernice Peterson and Pauline Steele.

Plant Specialists, Daisy Hastings.

The Library, Helen Fowler.

Donors and Patrons, Charlotte Barbour.

And, of course, Mrs. C. R. Marriage and Claire Norton for special articles.

## GREEN THUMBS IN 1955

Tentative plans of the editorial committee include special numbers on Rock Gardens, High Altitude Gardening, Perennials and Bulbs, Shrubs, Gladiolus, Native Plants, Inanimate Accessories for the Garden and Plants for Shady Places. Which of these or other subjects would YOU like to see. Let us know your preferences.

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# For Greater Enjoyment of Your Home Grounds and Preservation of the Natural Beauties of Colorado

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Membership in the Association means this to you:

1. A subscription to the official bulletin, THE GREEN THUMB, which is published monthly and is written specifically for this area by experienced gardeners and conservationists.
2. An association with hundreds of other green-thumbed lovers of plant life in the garden, in parks, on the farm and throughout the plains and mountains.
3. The use of Horticulture House, rebuilt and charmingly furnished by its sponsors for the use of members for meetings, classes, lectures and displays.
4. The enjoyment of its library and herbarium which contains an outstanding collection of books, current magazines, plates, pictures and specimens covering every phase of plant life.
5. The advice and council of a trained horticulturist to help solve all your gardening problems.
6. An opportunity to help in an organized way to preserve the natural attractions of your state for the benefit of you and others to come.

Members in all classes are welcome, but please consider taking out as high a class as possible. Since we have no support from any governmental agency, and since each member actually costs us close to \$6.00 all who can take out sustaining or higher memberships will help greatly to enable the association to keep up its valuable work.

TREASURER, The Colorado Forestry and Horticulture Assn.

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Please accept my membership in your Association for one year beginning

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I enclose \$..... for dues.

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Classes of Membership: Supporting, \$3.00; Sustaining, \$5.00; Contributing, \$10.00; Patron, \$25.00; Donor, \$100.00.

## YOUR INTERESTS ARE IN DANGER

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Belongs to You!*

**L**AND that has been set aside for the enjoyment and benefit of us all. Virgin forests, mountains, canyons, wilderness areas, sparkling streams and rivers, which so far have escaped the exploits of man. Whether they retain their original grandeur depends on YOU.

Since 1872, when Congress established Yellowstone, our first national park, 25 other national parks and many monuments, each of a distinct type of original wilderness of outstanding beauty, have been put under the protection of the National Park Service.

Because these lands are under the protection of the Government, most people believe that they will remain inviolate, but this is not necessarily so—not so long as selfish interests seek to have bills introduced in Congress making it legal to graze livestock, cut forests, develop mines and dam rivers for power within the parks. It is possible for a small minority working through Congress to have its way over an unorganized majority.

Have you seen the colorful and inspiring sunset reflecting rays of pinks, reds and purples against the walls of the magnificent Grand Canyon? Perhaps when you again visit the park, part of the canyon will be flooded. That can happen unless vigilant Americans are on guard against the invasion of dams now being planned for this and other areas.

Have you seen the excitingly different scenery along the green and Yampa Rivers in Dinosaur National Monument? That, too, may be flooded unless we remain on guard.

The beauty of majestic Mount Rainier is now being threatened by commercial interests.

These are but a few of the serious threats proposed by selfish interests. YOU can help prevent such destruction of our parks and monuments by adding YOUR voice to those now being raised in protest.

Through the NATIONAL PARKS MAGAZINE, published by the NATIONAL PARKS ASSOCIATION, you will be informed of any plans proposed that would provide profit for a few, yet would destroy the heritage of many. Join the NATIONAL PARKS ASSOCIATION — a citizen's non-profit organization with nation-wide membership, which provides a means whereby you can express your views on the management and the protection of the parks.

The National Parks Association's address is 2144 P. St. N.W., Washington 7, D.C. Membership (including the magazine) is \$3.00 and up.



*Shade and Ornamental Tree Maintenance*

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February-March, 1955

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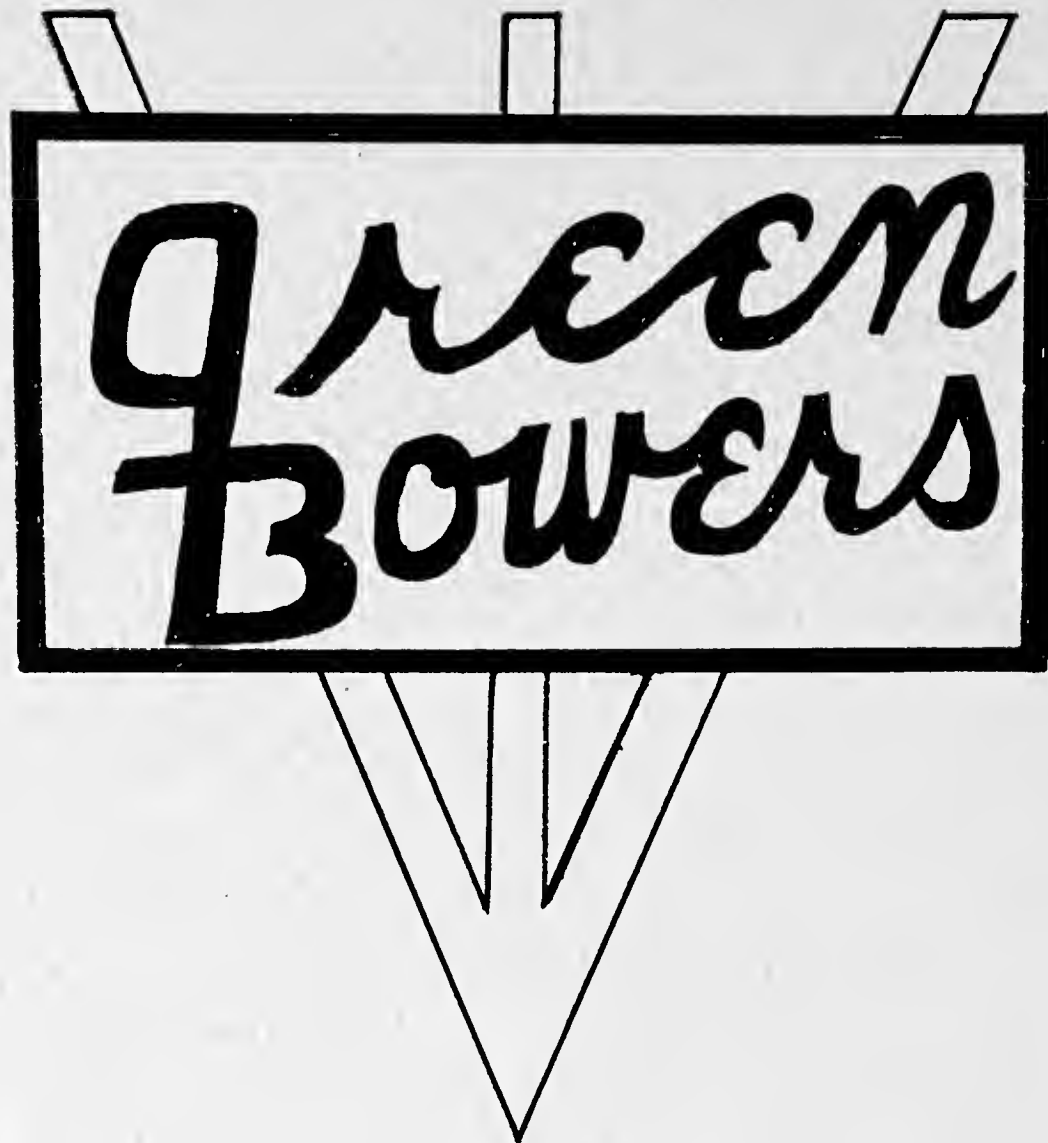
# *The Green Thumb*

COLORADO'S GARDEN MAGAZINE



PLANTING GUIDE FOR COLORADO





Dear Friends,

March is the month when you will read about the opening of our new garden center.

Located at the site of our present nursery at E. Exposition Ave. at So. Colorado Blvd., we will now be able to serve the Denver Area in a more complete capacity than any center of its kind in the Rocky Mtn. area.

We feel that we have an obligation to the thousands of customers we have had thru the years, and we pledge that the fine reputation we have enjoyed during those years will only be augmented by greater service to these customers and to those that follow.

Sincerely,  
Chas. C. Wilmore  
Doris Wilmore  
Ken Wilmore

# The Green Thumb

Vol. 12

FEBRUARY-MARCH, 1955

No. 2



## Colorado Forestry and Horticulture Association

Organized in 1884

"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

### OFFICERS

President.....Herbert C. Gundell  
Honorary Presidents.....Mrs. John Evans, Mr. Fred R. Johnson  
Vice-Presidents—Mrs. A. L. Barbour, Mrs. R. M. Perry, Mrs. George H. Garrey, Lemoine Bechtold, M. Walter Pesman, Earl Sinnamon, Mrs. J. J. Waring, Mrs. Frank McLister and Dr. Moras Shubert.  
Secretary-Treasurer.....Spiro L. Nickolas  
Editor.....George W. Kelly

## SEASONAL SUGGESTIONS FOR FEBRUARY AND MARCH

### *Now is the time to—*

1. Transplant trees and shrubs, if the frost is out of the soil.
2. Check up to be sure all equipment is ready for garden and lawn work.
3. Start seeds in window boxes or cold frames for later transplants.
4. Examine dahlia roots, glad corms, etc. stored inside, for right moisture.
5. When soil moisture permits (clod test), work soil for early planting.
6. Plant peas and self-seeding annual species in late March.
7. Use crab grass seed-killers before the blue grass begins to grow.
8. Look for early spring flowers in the foothills, but do not pick them!
9. Finish pruning grapes, bush and vine roses, ivies, etc.
10. To find answers to problems refer to old GREEN THUMB articles, use the December index.

### *Now is NOT the time for—*

1. Removing mulches.
2. Using "hot" mineral fertilizers—(but all right for manures and composts).
3. Watering lawns (even if permitted to do so).

GEORGE W. KELLY.....Editor    MRS. HELEN FOWLER.....Librarian

PAT CROOK, Asst. Editor and Librarian

MR. AND MRS. SPIRO L. NICKOLAS, Custodians

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## THE COLORADO FORESTRY AND HORTICULTURE ASSOCIATION

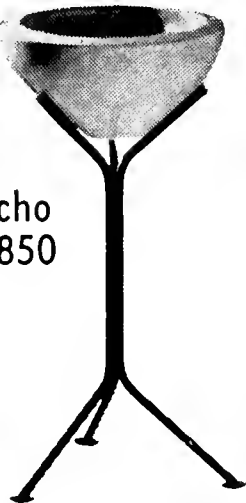
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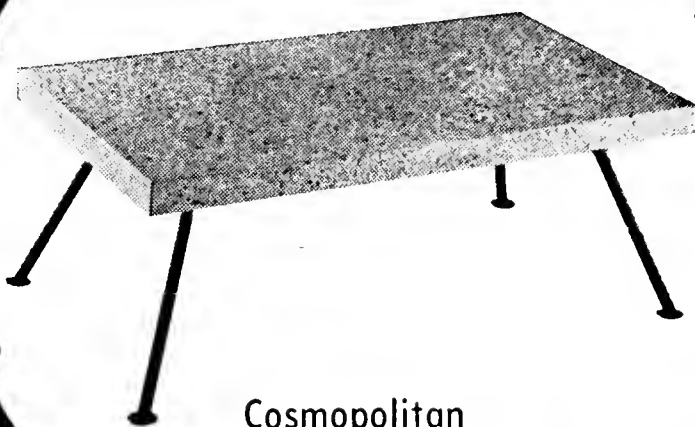
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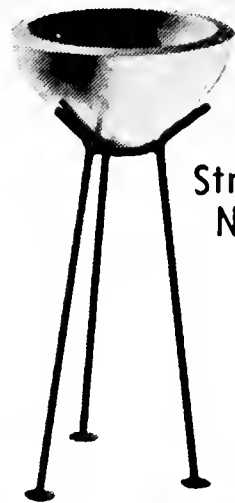
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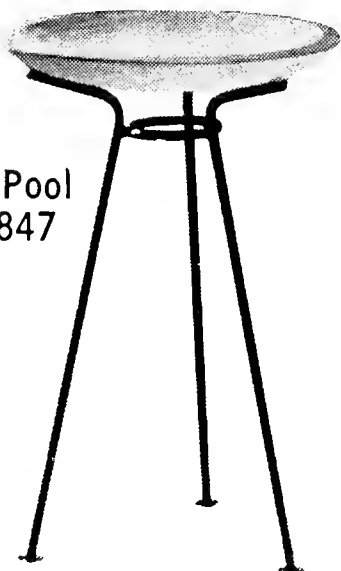
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## GROW GOOD SWEET PEAS WITH LESS WATER

By HENRY GESTEFIELD

1. Dig a trench 12 inches wide and 16 inches deep.
2. Fill trench with water three times and let each filling soak away.
3. Mix together one-third compost and two-thirds of the soil that was removed, if it is reasonably good.
4. Fill the trench to within six inches of the top with this mixture.
5. Soak this thoroughly.
6. Put a layer of sand two inches deep on top of the soil.
7. Place the previously soaked seeds 2 inches apart in the center of the sand.
8. Ridge and cover seed with the sand already in the trench.
9. Add more loose compost to the balance of soil.
10. Fill trench to within two inches of the top with this enriched soil.
11. Water once more.
12. Heap 6 inches of strawy, loose mulch over all of trench.
13. Forget about the peas until they are showing 6 to 10 inches above the mulch.
14. Water only when stems of peas turn a dark green, and then soak thoroughly.
15. If birds pick off the first shoots, don't worry, for there will be many new branches come from below the mulch.

## GARDENERS ARE FUNNY PEOPLE

By the funniest of all,  
HENRY GESTEFIELD

When making a new lawn homeowners loosen the hard soil, then pack it or roll it; they loosen it again, seed it, cover with mulch and then roll it again; and then expect the water to soak in readily.

They make a new lawn even with walks, drives and curbs so the water runs off on to the concrete instead of soaking in, not realizing that every year this lawn area will build up still higher and make thorough watering almost impossible.

In autumn the fallen leaves are raked into the gutters to be hauled off by the city, not recognizing that our greatest lack in this area is the compost that these leaves could make.

They remove the grass clippings from the lawn each year and then buy fertilizer to put back.

They expect penetration of water when they use sprinklers that give a flow of water more like a cloudburst.

Large trees are watered by filling a bowl around their trunks when the feeder roots on which the tree depends may be 20 or more feet out under the spread of the limbs.

Seed beds are watered a little every evening, cooling them off so they cannot grow, rather than watering infrequently and thoroughly.

They spend a lot of money to plant large, 3 to 4 inch trees, when the smaller sizes would cost much less and grow so much better as to soon catch up with the larger ones.

---

Anyone having a garden, or even two trees and a lawn, cannot afford to be without a copy of George Kelly's book:

**ROCKY MOUNTAIN HORTICULTURE IS DIFFERENT**

**\$1.50 by mail or at any book store**

**GREEN THUMB COUNCIL, 1355 Bannock, Denver, Colo.**

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- Tree Removal

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Morrison, Colorado



*Drawing by Pauline Roberts Steele*

## HARBINGER OF SPRING

Snow and ice are at Mr. Gardener's door but he knows spring is on the way. The first welcome sign has arrived—that first seed and nursery catalogue. It takes precedence over Mrs. G's first class mail. Their nice young postman shares their interest in that catalogue. He values their opinions and advice—with it he raised his first garden last summer, and his tomatoes were the envy of all his young neighbors out in his new subdivision.



## DO IT YOURSELF PLAN YOUR HOME GROUNDS

By M. WALTER PESMAN, Landscape Architect

**A** FINISHED garden plan may look complicated. Developing it step by step is fairly simple.

It must be done on paper first. A simple method is here proposed that can be followed by many people without much trouble. Surprisingly enough, if a hundred home owners follow the outline, as here suggested, a hundred different gardens will result. The reason? No two families have the same requirements, nor have two people the same ideas as to what they want to get out of their garden. To decide on these preliminaries is of prime importance.

The first step then is to put on paper just what you *want* your garden for. In many cases it may be well to

have a family confab about these basic wants: Mr. Home-owner may mostly want a garden to practice golf strokes, Mrs. Home-owner desires to impress her friends by elaborate garden entertainment, while the Home-ownerlets feel that their happiness depends primarily on swings and bars and croquet. This is merely an illustration.

From actual experience, I find the following garden wants to be most common: the *pleasure of growing* flowers, trees, shrubs, bulbs, roses, vegetables, fruits, or other specialties; *relaxation* by rest, garden activities, simple sports; *exercise of artistic ability* through proper garden design (this includes an appropriate setting



for the house); an outdoor living room; the *enjoyment of nature* in a controlled space.

However, certain special items may appear on this list of garden wants, such as a place for a dog to romp around in, a rock garden, a sunbathing corner, a horse-shoe court, a bird sanctuary, a skating pond. It is most important that this list express your particular individual needs. Even "outlandish whims", such as tennis courts, swimming pools or what-not had best be listed at the outset: there may be a way of compromising wants and possibilities: tennis may change into badminton, a swimming pool may be transformed into a pond or bird bath.

The *second step* consists of putting in map form the entire plot. On this map the house, garage, clotheslines, every existing tree, walk, incinerator, should be placed to a definite scale. That means, for instance, that every inch on paper represents four feet on the ground: a garage 20x24 feet would show as a rectangle five by six inches. For a large home ground, measuring say 120 by 200 feet, a scale of ten feet to the inch might be preferable, making a map twelve by twenty inches plus border, title, etc. Convenience is what should guide the choice of scale.

There are various ways of working up such a map. The easy way is first to put all measurements on a rough sketch, then decide on a scale and finally "plot" the notes on a map drawn to the scale selected. Beginners can buy special "coordination" paper on which each square represents a foot of ground. In any case the final result is a neat pencil map on which every wanted distance can be measured at will.

Now then we have a list of wants and a map of what we actually have. Our task now is to harmonize the

two. It is best to begin with the larger areas; details of where to plant petunias and roses will come later.

The *third step* is to divide our plot roughly into simple parts. Almost invariably the American home ground shows three main divisions: the Public Area, Service Area, and Private Area. The accompanying sketch shows what is meant at a glance. Each area can be developed individually. Simple ovals are convenient to begin with; we shall find that in general the center of these ovals develops into lawn.

The *fourth step* is to develop these simple areas. For this development we need to indicate the necessary walks, and important views: both toward the house and from the windows. These views need to be featured if they are good to begin with, or screened if objectionable, and endowed with new beauty of our own making. Let's examine each area.

The *public* area usually resolves itself into a single picture of which the residence is the center feature; generally a couple of trees are on either side of the frame. If a house is well designed it would be undesirable to cut this picture in two by even an upright juniper or a spreading tree. A few shrubs along the house foundation almost always help the overall effect. Keep them small, either evergreen or deciduous, or best yet, a combination of the two.

Whether or not to include a boundary hedge depends on the owner's preference, the degree of seclusion wanted, the type of house. Even a simple fence may occasionally be all right; most of us prefer to add our piece of lawn to that of our neighbor and thus create a wider feeling of expanse.

The *service* area normally is relegated to the north part of the



grounds; it should preferably contain all the needed utility items, such as clotheslines, incinerator, tool shed, compost pile. Even cutflower gardens or vegetable gardens may be placed in this general area, since they are often not particularly good-looking. Often a simple hedge or shrub screen planting can separate it from the next area, the specific *private* area.

Here is where the designer can use his (or her) full ingenuity and artistic ability. Trees should be plotted first of all: they are the skeleton of the design. Where to place them? They are to do two things: furnish shade where it is most wanted during certain parts of the day, and provide a frame (or semi-frame), for the most important pictures, such as seen from living room or kitchen window. (Yes, I mean kitchen—doesn't the housewife spend an important part of her day there, and don't we want her in a good mood during that important time?)

In general we can say that the boundary lines of this private area require some sort of screening; so we can sketch in some curlicues, which stand for shrubs, to provide a background for the view. (Later on we are to decide what kinds of shrubs are best for the purpose). So now we have, in general, an open lawn in the middle, surrounded by a sort of shrub border and with a few (not too many) spots of shade or ornamental trees.

Perhaps we should decide next what is the best place for our flower borders: after all they need sun during most of the day, and they should be in such a spot where they can be seen from the most important points.

Had you figured on a bird bath or some other ornamental feature? Now is the time to locate it in such a place where it will create a focus of inter-

est. A garden seat can do the same job. All such man-made features enhance growing trees and shrubs and flowers.

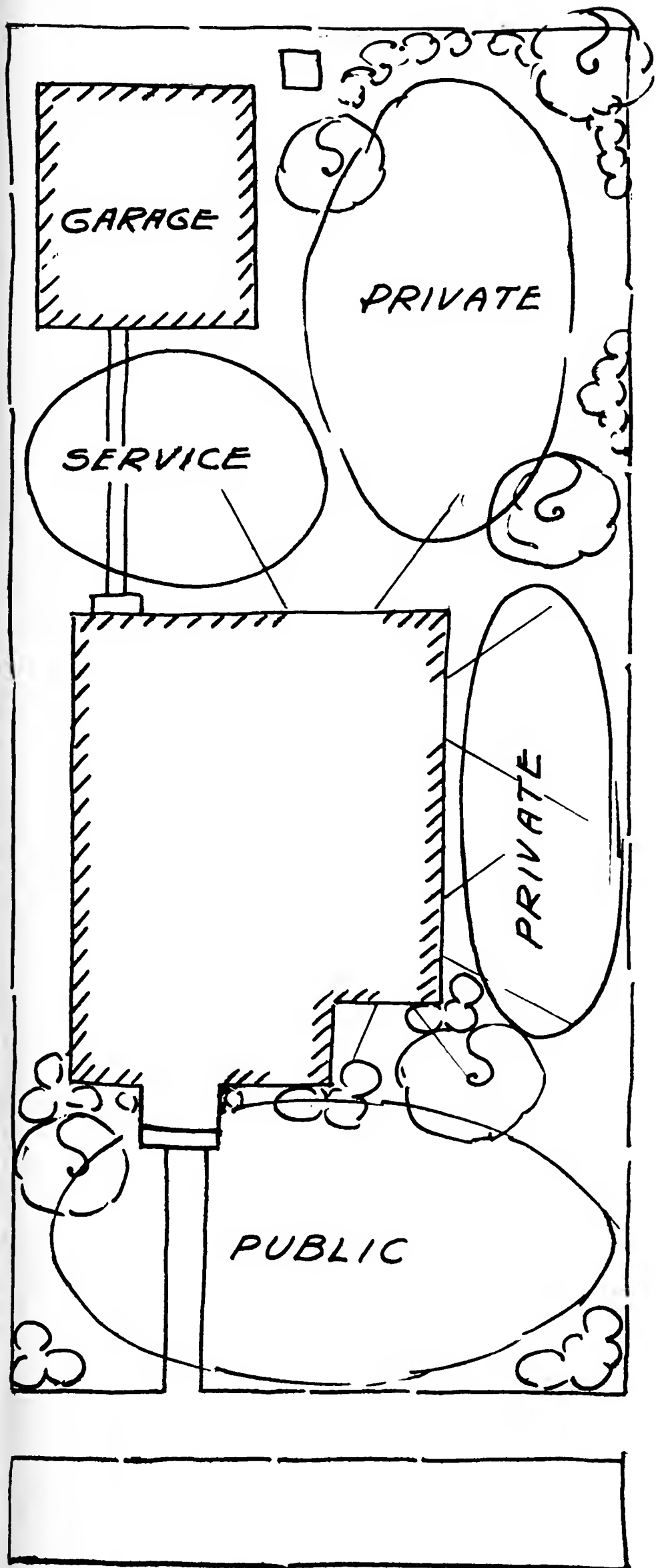
Even more important is the location of patio, pergola, rose or grape arbor—any place to sit. All of these features can be shoved around on the plan until we find they are in the very best place, both for beauty and convenience. A number of arrangements can be tried out; that is the advantage of a paper plan over an actual garden decided upon without due and careful deliberation.

Scared of making a decision? Most of us are, in the beginning, until we actually work them out on paper. Then, before long, things fall in place, one after the other, and the result is a plan that fits the ground and that fits the owner. Once such important locations as patio, trees, flower borders and "features" have been decided upon, a plan takes shape. Our general plan is ready for

The *fifth step*, namely, the decision of what to plant. Here is where the various lists of plant materials in this issue of THE GREEN THUMB are invaluable. They show character, height, color, etc.

Variety is the spice of life, but few of us care to live on spice. In a garden, too much variety in plant material can easily make a restless, unpleasant picture, that lacks both artistry and comfort. Three or four types of trees are as much as most small home grounds can take. In shrubs also, it is best to have a few kinds predominate, and act as a foil for the spectacular type. It is not individual shrubs we should feature, but shrub groups (of three or five individuals for instance). In such a group a shrub shows its best characteristics.

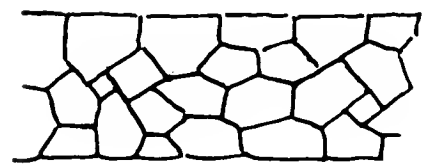
Odd-colored shrubs, particularly,



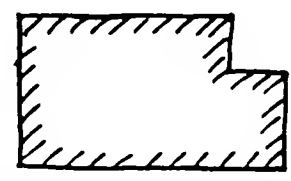
# SYMBOLS



DECIDUOUS  
TREE



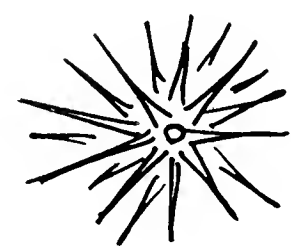
FLAGSTONE  
PAVING



BUILDING



STEPPING  
STONES



EVER-  
GREEN



SHRUBS

such as Purple Plum, Yellow Dogwood, Red Barberry, should be used sparingly, and in contrast with the more conservative kinds. The same thing holds for strong fall colors, such as Winged Euonymus, Sumac and Viburnums: plant them in conjunction with evergreens or with plant material that keeps its green color well into fall, such as English privet.

Another word of warning should be given against the over-use of evergreens. Blue Spruce, particularly, can easily be overdone in a small yard. Pinyon pines are often more in keeping, being smaller and less self-important: a blue spruce seems to say: "Look at me, look at me!"

A good planting plan provides interest all during the year, either in pleasing foliage, attractive flowers, striking fruit, fall color, or perhaps just a fascinating shape or texture. Many shrubs can "fill the bill" during various seasons, first blossoming, then bearing fruit and finally showing fall color. Select them carefully.

Modern homes are apt to be low and to have horizontal lines: small shrubs and trees are in scale, large ones overpowering.

For flowerborders the same general principle holds in design: one color or type of flower might well dominate the border at various seasons, with other colors and types being subordinate. But at all times there should be interest in color, texture, shape,—a dictum that sounds very simple but is hard to accomplish. At the outset we might well remember that the good old petunia is a standby that will carry the border over many a rough spot. (Similarly, in the shrub border, Bridal Wreath easily saves the day whenever you're in doubt as to what to use. Both are comfortable dependables in Colorado).

One more type of plant material is

indispensable: vines. Most homes are better off for a few simple vines: Engelmann ivy, roses, clematis, honeysuckle.

The sixth and last step is one of general review. No plan is quite satisfactory from its inception. Try to improve on it. There may be a "rough spot" where an Oriental Poppy would just catch the eye in mid-spring. An uninteresting corner may be brightened by an accent plant. An awkward slope might be improved by a low dry wall, built up of flagstone without the use of cement, and with rockplants peeping out of crevices. Under an overpowering shade tree, grass may be difficult and a patch of periwinkle may act as a ground cover. I have even known of a case where a small pool was put in as an afterthought in a cozy corner of the lawn, as a final touch.

It is well to let a few days elapse before taking this last step: second thought is often provocative, where the first idea has become stale. And a paper plan is long-suffering and pliable.

Now, looking over your own plan, the one that has thus grown under your very eyes, step by step, it will again impress the outsider as a complicated piece of work. In reality it will represent to you, the outgrowth of your own ideas, ideals and needs. If it is that, it is a good plan for you. And if you have visualized, in the process, how each picture, that you have designed, will look in actuality, when carried out in plant material,—if you will keep the open space idea alive, either in lawn, ground cover or even paving, I'll bet your plan is more than an adequate development of your grounds. It will represent a piece of art, comparable to any other kind of plastic masterpiece. It will be your own creation.

## PLANTING

*Here Are Important Rules for Every Gardener*

**T**HE growing of good ornamental plants is probably dependent *at least half* on their being properly planted, and yet this operation is the one that is most often done hurriedly or improperly.

### **Planting in Other Areas**

In many parts of the United States the planting of trees and shrubs is a very simple procedure. All that is necessary is that you dig a hole, set in the tree or shrub, and let nature take its course.

### **Planting Peculiarities in the Rocky Mountain Area**

In this *Rocky Mountain Area* we have several conditions which make proper planting more difficult. Soils in general are alkaline, the ground is often dry when the planting is done and there is small chance of newly set things getting natural precipitation enough to keep them growing. The most difficult situation of all is the especially hot sun and dry air, which many of the plants from other climates cannot tolerate.

### **Plan First**

The most common mistake made in planting is to buy a few things that look good at the nursery and take them home and then try to figure where to plant them. Under these circumstances they are usually planted in the wrong place for their best effect and are most often put in the ground in the quickest way possible.

The right way is to have planned well in advance for the things needed and then buy only plants that will fit these plans and create the effects desired! Ultimate height should be the first consideration, then such things as

bloom, fall color, fruit, and winter effect. Plants must be selected which will tolerate the conditions found in the place where they are to be set; such as shade, bright sun, wind, heavy soil or competing tree roots.

Planning all the details of a planting is good winter garden work, then when spring comes and the frost is out of the ground all attention can be given to the actual work in the soil. Put these plans on paper so that you will remember them.

### **The Main Planting Season: Spring**

The main planting season in this area is in the spring between the time the frost is gone from the soil and the time that the leaves start to grow. This season may start anywhere between February first and April first and usually ends the middle of May. Except for some particular plants later all things may be moved as soon as the frost is out of the soil.

### **The Fall Planting Season**

There is usually a fall planting season from about the middle of October to the middle of December, which depends on season and weather. Many of the evergreens, slow-growing trees and shrubs with difficult roots are not as safely moved in fall as spring. They may set through the winter with our hot sun shining on them and sucking out their moisture and be in poor condition in spring when the weather becomes favorable for new growth. Each nurseryman has special preferences as to planting in the fall so if he is willing to take the risk, let him be the judge. There is always too much to do in spring and anything that can be safely done in the fall is just that much out of the way.





### **Preparing The Soil First**

Too often ornamental plants are planted in soil around a new home without doing anything to improve it. When every house had a basement this usually meant planting in the lifeless soil from the bottom of the basement. The garden was doomed from the beginning.

Take time to prospect all over new grounds and if very poor spots of soil or deposits of plaster and rubbish are found, remove them and bring in good soil to replace it. This may cost money and delay the planting but it is the most important step in making a good garden. Even with reasonably good soil, there should be some work put on working it up rather deeply and adding manure, leafmold or peat.

Soils vary in texture and quality, so no general rules can be made, but it is certain that ANY soil will be benefitted by deep loosening and a thorough mixture of humus with it. Humus added to a light, sandy soil will enable it to hold more water and plant food and humus added to a heavy, clay soil will break it up and allow better drainage and allow the plant roots to penetrate it better. Adding sand to a clay soil or clay to a sandy soil can sometimes be done if a great enough proportion is used and

if it is **THOROUGHLY** mixed to a sufficient depth. The same amount of time and money for adding humus will usually do more good.

Humus or organic matter may be manure (cow, horse or sheep) it may be peatmoss, leaf mold or it may be composted plant material. Fresh manure has also more chemical value while peatmoss has little or none. Peat may profitably be added to most soils up to 35% while fresh manure must be used cautiously to avoid burning the new roots of plants.

### **Digging The Holes**

With your plan in mind it is good practice to dig the holes for the things that you intend to get that day or the next. Dig them plenty large, especially at the bottom, where the roots will want to spread; and remember that the harder the holes are to dig the larger they should be. You can loosen up the hard soil easier than the new roots can. If poor soil or subsoil is encountered in digging these holes throw it out and fill back with good topsoil when the plants are put in.

### **Backfilling**

New plants like to be set in good soil—soil with humus in it, but they cannot tolerate great quantities of rich fertilizer, either organic or chemical. Up to a third in bulk of peat can profitably be mixed with most any soil, as it has little chemical value, and smaller quantities of leafmold or well-rotted manure can be used, depending on the age and chemical strength of the material. It would be good practice to prepare the soil for planting many months in advance, if possible.

### Get Good Stock

Don't let the pretty colored pictures and glowing stories of nurseries from far distant places fool you into getting things which are not adapted to our climate. Even species of plants which are adapted here may be poorly grown or badly packed so that they arrive more dead than alive. Don't fall for "bargain" plants. The only way to economize in buying plants is to get small sizes. These small plants will usually move easier, start growing sooner and will cost considerably less. If you must have large plants, see that they are moved with a good proportion of roots or balled. This is expensive work at best.

Your local nurseryman is more likely to have the plants that are adapted to your conditions and he will be able to get them to you in fresh, live condition. Many nursery plants are dug in the fall and stored in cellars until planting time in spring. This process can be done so that the plants are in good condition when delivered to you, but there is plenty of chance for careless handling and you should see that the plants you get are not dried up or damaged from handling. The larger sized trees and shrubs are much better when moved directly and promptly from the nursery to your home.

### If You Dig Yourself

If you have stock given you, that you must dig yourself, you should dig carefully so that you will get all the roots possible and protect these roots from sun and wind until they can be put back into the soil again.

### Care of Stock Before Planting

When the plants are delivered before the ground is ready to plant them, they must be cared for carefully so that they will not become

dried out. If they are small plants or are carefully packed in some moist material they may lay several days without harming them. Open the tops so that air can circulate around the tops, but leave the roots covered, and be sure that the material around the roots is moist. Set the package in the shade. If plants must lay for several days, or if they are large it is best to "heel" them in the soil. To avoid digging a large hole they may be laid on their sides and just enough soil thrown over them to keep the roots from drying out. Water as necessary to keep moist. If stems of plants appear shriveled, cover them completely with moist soil for a few days. Often roses will be benefitted by this treatment.

### Protect The Roots

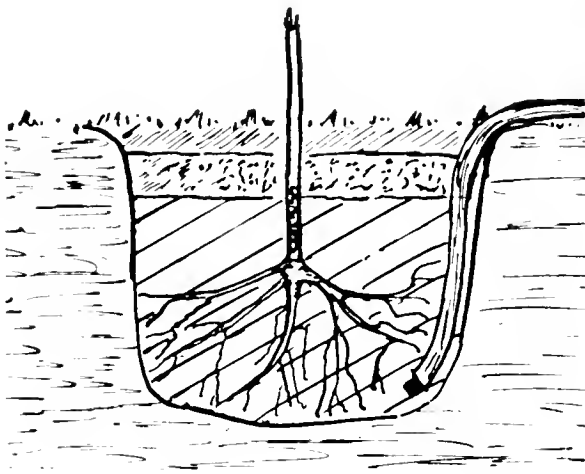
After all these preparations, then comes the actual planting—the place where many start. Bring out your plants and look over their roots. Make fresh cuts with a sharp knife or shears where there are mangled ends or dead tips. A good clean cut will encourage roots to start. Keep all roots covered while preparing to plant.

### The Actual Planting

With the holes dug in the proper places and sufficiently large, and suitable soil available to backfill, you are ready to plant your stock.

This is best done by two people so that one can hold the plant, spread out its roots and see that the soil fills around them. Throw in the first few shovels of soil very carefully — just sift it in, so that the roots are not thrown all out of shape or matted together. Put the best soil in first. When the hole is almost full of loose soil work the hose, with the nozzle off, down to the bottom of the hole and turn on the water. Let the soil

settle from the bottom up and there will be no air pockets. When the soil has settled and the water begins to show on the surface turn it off, check the plant for depth and position and fill in the balance of the soil. If hose water is not available the same effect can be had by watering from a pail if a spade is used to work a passageway down to the bottom of the hole. Unless there is no water available and the soil is already moist do not tramp or pack the soil. Watering and tramping both are likely to form "bridges" of soil with air pockets underneath.

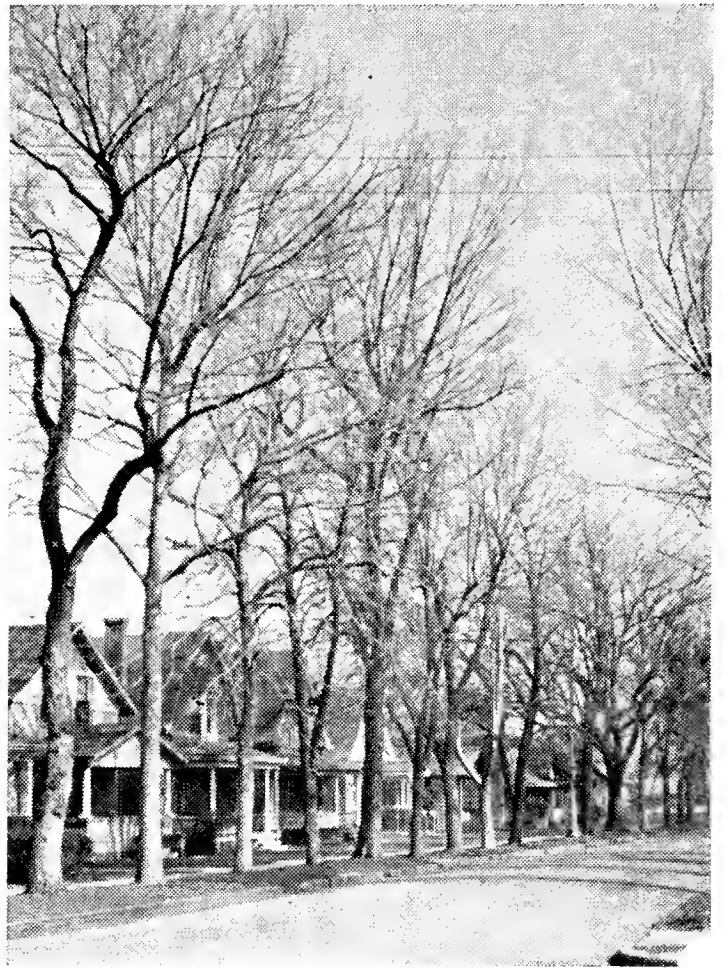


### Depth To Set

Plant all things at about the depth that they grew in the nursery. This can usually be told by the difference in color and texture at the natural ground level.

### Planting Shade Trees

Careful planning should be done before planting shade trees. Decide what effects or results are needed from trees and then find out from your nurseryman what trees will give these effects. Space them properly so that they will have room to grow without interfering with other trees, buildings or overhead wires. Find out how large your tree is likely to grow before you plant it.



*If trees are planted too close together they become distorted and weak because of their competition for sun and soil room, and can never become the well-balanced trees like this one of the famous Brown Oaks.*







*Dramatic example of trees mutilated to provide for wires. If properly planned in advance we may have both. Photo courtesy of Ed Scanlon of Cleveland, Ohio.*

### **Moving Large Trees With A Ball of Earth**

Large trees can be safely moved if proper care is given to the digging and handling. It is a job requiring proper equipment and experience. A ball of earth of the proper size must be dug around the roots and this ball must be wrapped and bound and then handled so that it gets back into the new hole in sound condition.

If poor soil is encountered in digging the new hole it is important to remove much of this and replace with good soil so that the new feed roots from the ball may easily become established. For particular trees like oaks it is helpful to add peat to the soil and to take steps to counteract excess alkaline conditions.

Large trees cannot be moved cheaply for they must be handled carefully. When the work is done properly there is no reason why they should not soon recover and grow.



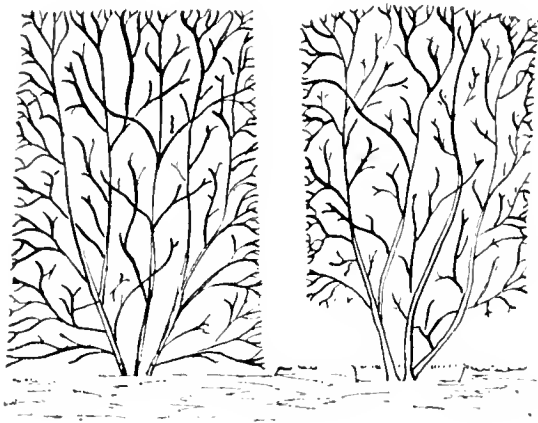
### Transplanting Shrubs

After the hole has been dug to sufficient depth and width, place each plant in the hole separately allowing sufficient room for a little root expansion. Top-soil that was put in a separate pile should be placed deepest in the hole. It contains the most plant food and humus and will give the roots something to feed on as they begin to penetrate the surrounding soil area. The sub-soil which is added next should be mixed with a little leaf mold or peat moss and should have an addition of one-half cup of superphosphate per cubic foot of soil. (A bushel basket of soil usually is about one and a quarter cubic feet.)

In planting a shrub, attention must be paid to the ultimate size and spread of that plant.

### Hedges

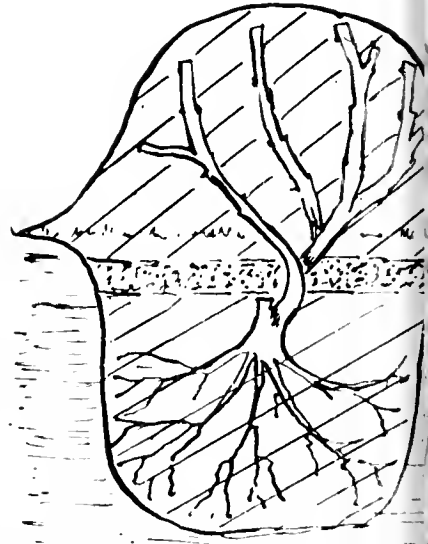
Hedges are usually planted by digging a trench the distance of the hedge and setting the plants at intervals in the trench. By carefully lining up the trench and setting all the plants a uniform distance from one edge a straight line is assured.



### Roses

Roses are planted much as other shrubs, but should be cut back to about 8 inches and hilled up with soil almost to the top of the stems until the new growth starts. Pick a spot with about two-thirds sun for best results.

Plant graft or bud slightly below ground level. Dig holes large enough to receive roots in natural position. Re-water once a week or 10 days. Remove mound of soil gradually over a ten day period, as soon as new growth starts.



If plants are dried out when received cover them with moist soil for a few days or soak in water for a few hours to replace lost moisture.

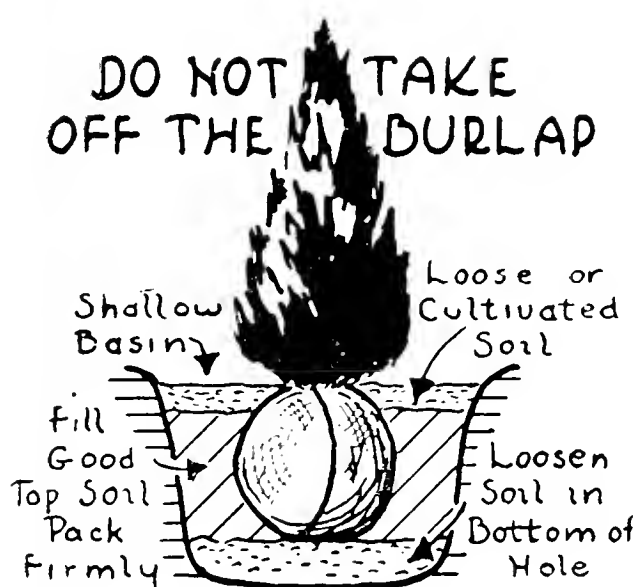
### Evergreens

Transplanting evergreens is a specialized job. Their roots do not tolerate being dried out for even a few minutes, so the general practice is to move them B&B (balled and burlapped). This balling is a particular job, the important thing being to keep the ball of soil around the roots solid and undisturbed until it is back in its final hole.

*Hedge plants should be severely cut back when first planted and later should be sheared frequently to induce much branching.*



Balled stock should be handled carefully, and always by the ball and not the top. Prepare the holes to receive balled evergreens so that there is plenty of room to set the ball and work it around in position. Usually a hole about a foot greater in diameter than the ball will do. The soil in the bottom of the hole should be loosened up some but the depth of the hole should be carefully measured so that when the ball is lowered in it will set at the same depth that the tree grew originally. Then carefully plumb the tree and pack some soil under the edges of the ball so that it will stand solid. Backfill and water then much as for deciduous stock.



Evergreens that are delivered to your home with the roots balled and burlapped should be planted without removing the burlap. It is however advisable after the plant is set to cut the top string near the crown of the plant which may girdle the plant before it rots.

### Perennials

Most perennials are handled with some soil remaining on their roots. These clumps can be planted much as would the larger things, watering in carefully. Small bare-root perennials and annuals should be set with a

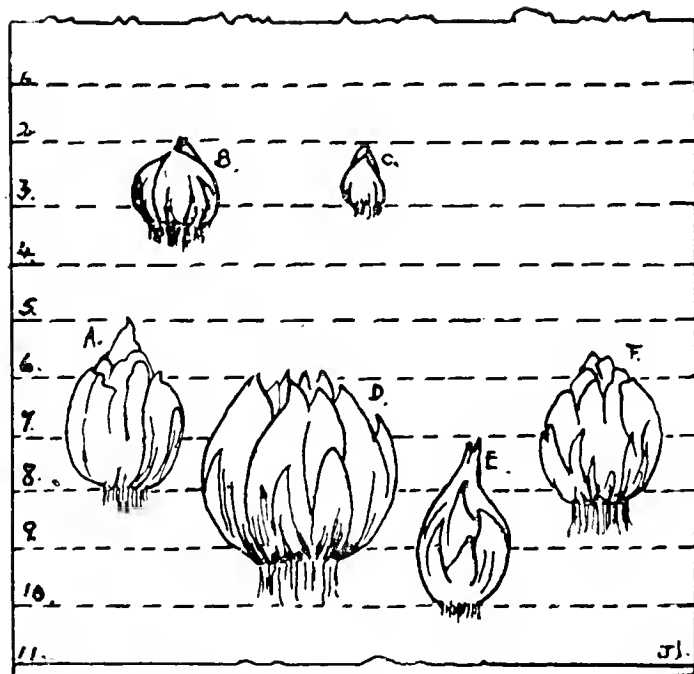
shovel or trowel, spreading the roots out as naturally as possible and carefully watering in. Sometimes a little shade from a shingle or newspaper will allow these bare-root plants to become established quicker.



### Bulbs And Such

Dahlia roots must be carefully handled to avoid breaking the "neck" where all the new sprouts originate. Gladiolus bulbs may be planted 6 inches deep when put in early or a little more shallow when set late in the season. If set deep they can be planted before danger of frost is over. Cannas are easy to plant but are tender and should not be put out until frost danger is over—probably June first. There are many species of lilies requiring varying treatment, so the

only way to get them in properly is to study the requirements for each kind.

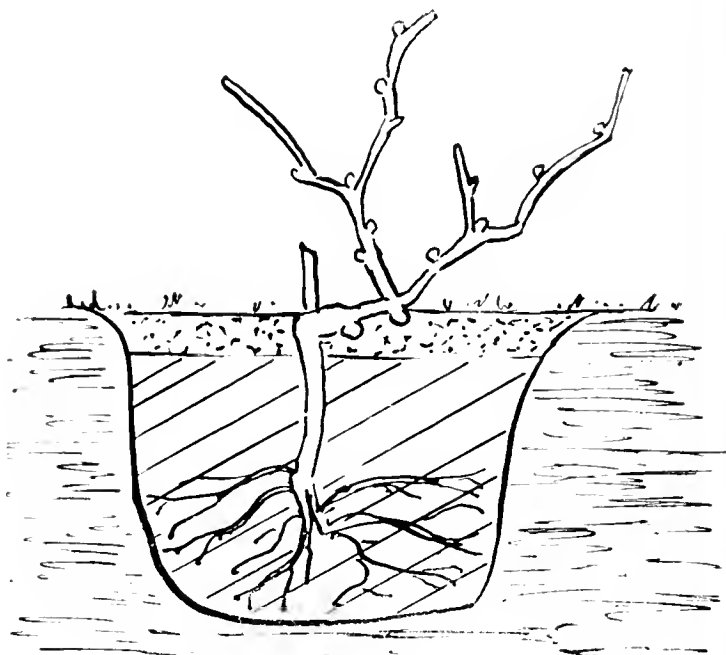
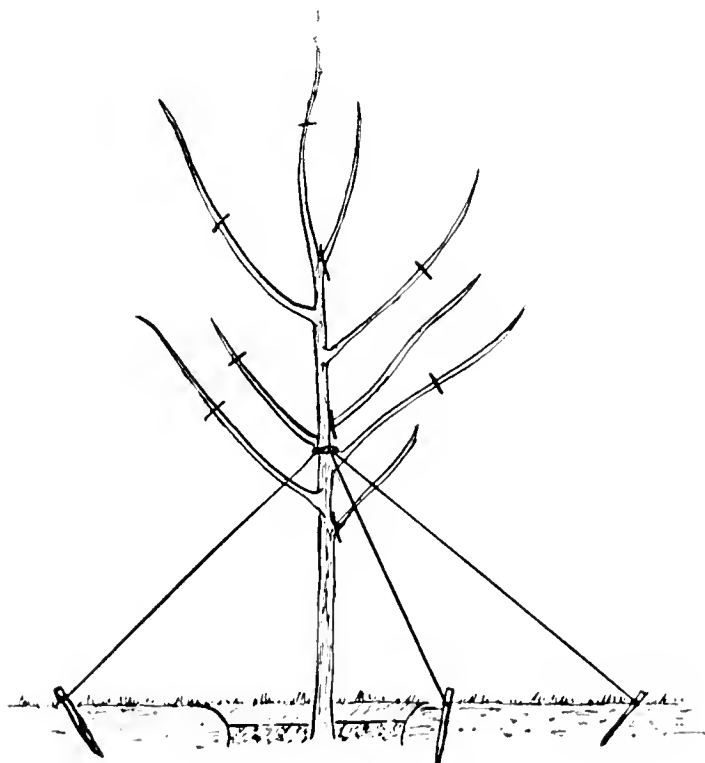


The fall-planted or Dutch bulbs should generally be planted about 50% deeper than the usual directions for the East. Tulips usually do best when planted about a foot deep.

### Fruits And Berries

Fruit trees and berries may be handled much as would ornamental trees or shrubs.

Cut back at least  $\frac{1}{2}$  of top as shown. Have lowest branch pointing to Southwest for a trunk shade. Plant top of graft just below ground level. Remove crowded branches at trunk, with a smooth flush cut.



### Grapes

Plant just above second bud. Trim top to 3 or 4 strong buds on each cane.

### Plants Requiring Special Treatment

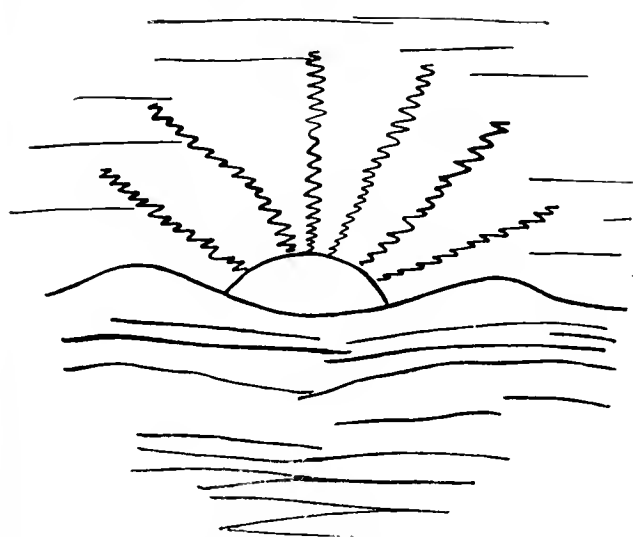
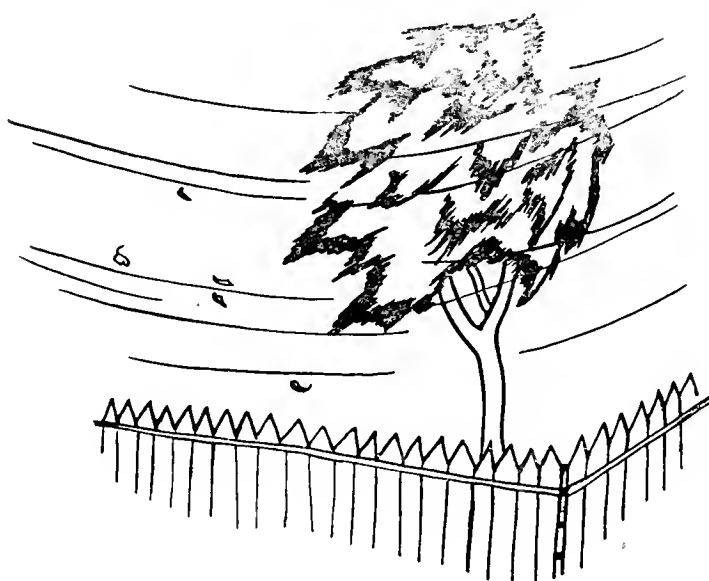
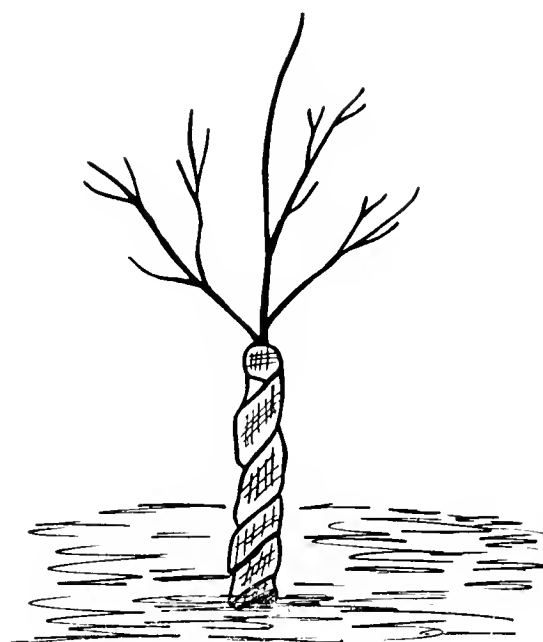
Some slow-growing trees require special treatment to assure their growth. Birch are safely moved for about a week in spring just when the new buds break into green. At this time they may be safely moved bare root, but at any other time they require a large ball of soil. When Hackberry, Hawthorn, Honeylocust, Oaks and other slow growing trees are transplanted, they may set dormant half the summer before breaking out in leaf. Success can be assured with these difficult trees by digging with plenty of roots, keeping the roots from drying out, using much peat-moss around the roots in planting, keeping the soil moist, and frequently sprinkling over the top.

### Care After They Are In The Ground

These new plants must be considered much like babies of any kind—they need a little extra attention until they become established with new roots and tops. It is a good idea to check the moisture content of the soil

around them about every two weeks for the first year. Unless you are sure that the soil is moist down to their farthest roots, give them another soaking. The only way that you can tell how long it takes to soak down far enough in your soil is to experiment and check the actual conditions a few times. Do not assume that if a little water is good for them, a lot is better. Many new plants are killed by this "kindness" of continually keeping the soil around their new roots soggy. Water thoroughly but infrequently.

For the first year it will often be found convenient to leave low dikes and bowls around the new plants to facilitate thorough watering.

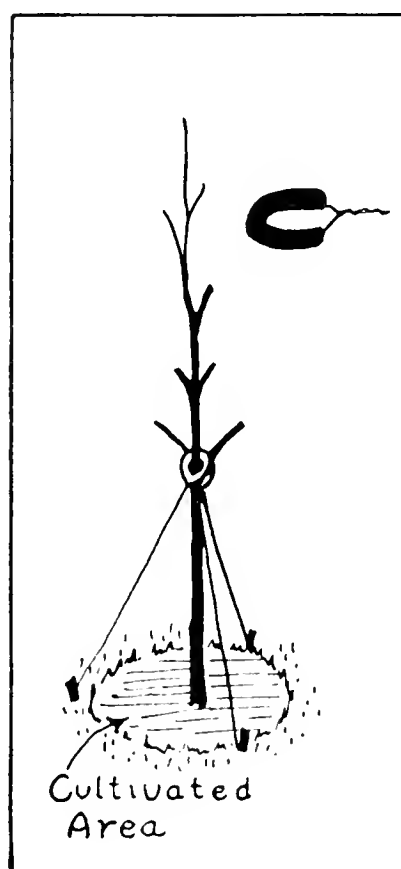


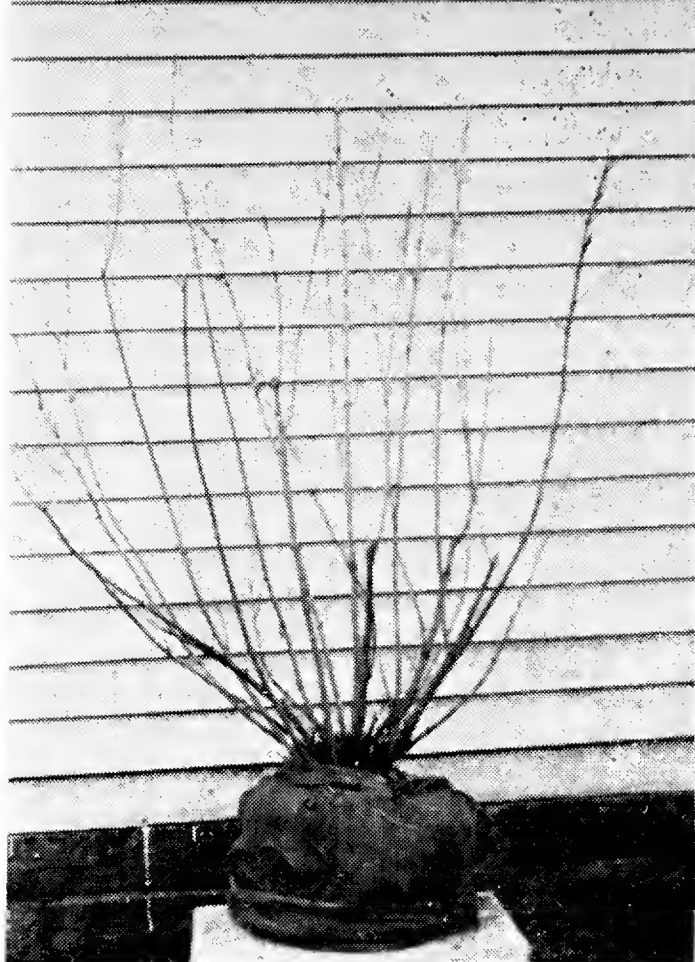
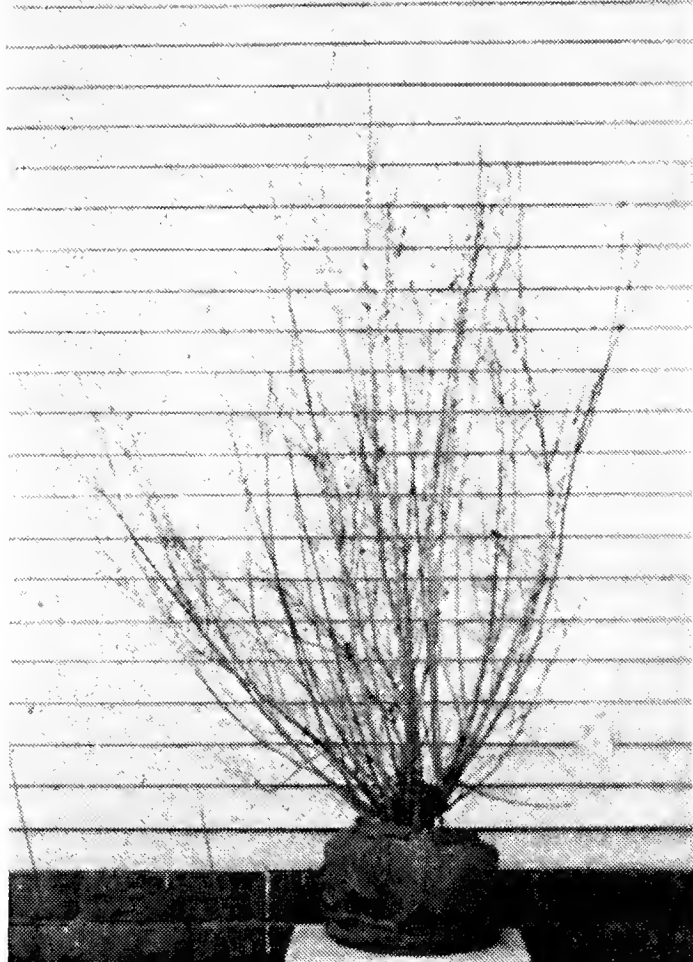
### Protection From Sun

Some protection from the wind and sun will be appreciated by many of the better plants. Mountainash, Linden, Hard Maple, Wild Cherry, Walnut and Buckeye trees will appreciate being wrapped or their trunks shaded for a few months or even years. White Pine, White Fir or Arborvitae would benefit by having a lath or burlap shade set on the southwest.

### Protection From Wind

Tall trees should be braced for some time until the ground settles and the new roots take hold. Be careful to pad the wires used for bracing, where they are attached to the tree, and move them frequently as the tree grows.





*Honeysuckle bushes dug and ready to be planted out. The one on the left is as they come from the nursery and on the right as thinned and trimmed after planting.*

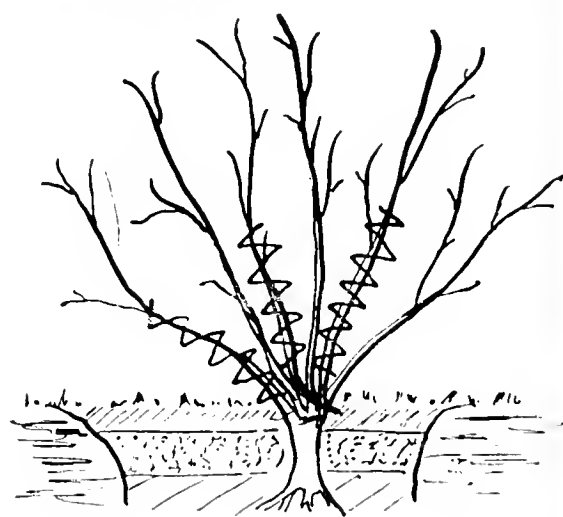
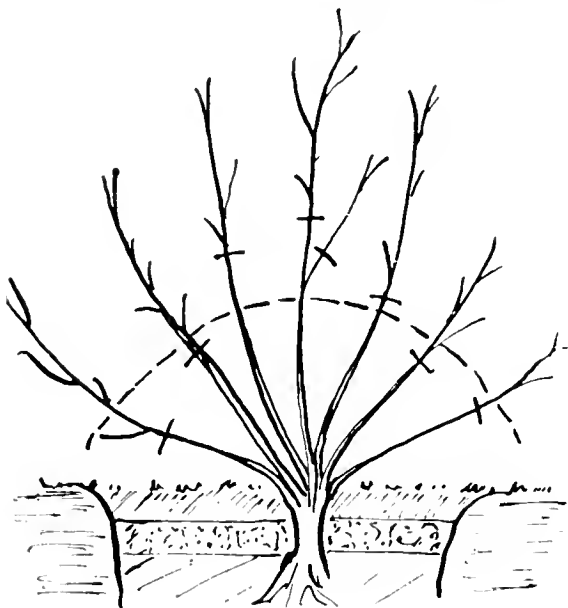
### Cutting Back

Trees and shrubs that have not been pruned by the nurseryman before they were delivered should be pruned and trained somewhat, to make up for the loss of roots in transplanting. Shrubs are usually cut back one-third to one-half. On trees, many of the smaller branches are removed, narrow crotches are eliminated and only wide-angle crotch branches are kept for the development of a good scaffold for the trees.

Most all newly transplanted woody

plants will make a better growth the first year if they are carefully thinned or cut back. This allows the roots to become established before they have a large top to support. This trimming can at the same time be done in such a way as to encourage the plant to shape itself in the form desired. A hedge should be cut away down to encourage it to branch freely while a tree may be thinned or the individual limbs cut back to encourage it to grow tall. Evergreens, other balled or potted plants and very small plants usually need no trimming.

*One method is to cut back tops about one half either at marks or at dotted line, or, remove the stems at ground level as indicated by zig-zag lines.*



## CONTAINER GROWN NURSERY STOCK

By KEN WILMORE, of Green Bowers Garden Center

**D**URING the past few years, some of us in the nursery business have done extensive experimentation with container grown nursery stock. We knew that it was nothing new in the industry, but it was an absolutely new experience to us here in the Rocky Mountain Region. California had been selling all kinds of plants in cans for years, but like everything else concerning our peculiar horticultural problems, we had to find out if it would be a satisfactory method of handling landscape material in our area.

The results of five years of experimentation have been far and above the most satisfactory we had ever anticipated. We tried evergreens, shrubs, shade trees, roses, vines, and perennials—all with the same results—excellent. We not only had an unbelievably low mortality rate in transplanting this stock, but there was very little if any transplanting setback in growth. It just keeps on growing as if it had never been moved. Another fine feature of container grown nursery stock is the ease of planting. Even the novice can plant this material with professional results.

One of the most revolutionary features of container grown nursery stock is that any of this stock can be planted at any time of the year whether it is dormant or in full leaf or bloom. This feature alone is of great help to the customer as it enables him to pick out stock which he can see in bloom or in leaf and doesn't have to take the nurseryman's word for it and possibly be disappointed when the leaves and blooms appear.

Container grown nursery stock is by far the most important advancement in the nursery industry in this area for many years, and like so many other good things, there will be those who will try to merchandise container grown nursery stock that has been improperly grown and cared for, so my advice to the prospective buyer of container grown nursery stock is to patronize an ethical, experienced, well established nurseryman. He knows best what will make you and your garden happy.

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*designer and contractor*

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# THE MARVELOUS WORLD OF PLANTS

HELEN MARSH ZEINER

**P**LANTS constitute such a familiar part of our environment that most of us take them for granted and give no thought to what complex and wonderful organisms they really are. A greater understanding of plants and their intricate workings would make better gardeners of us all!

Let us start our ventures into the marvelous world of plants by acquainting ourselves with a typical plant. You are no doubt aware that such a plant has roots, stems, and leaves, but are you aware that each part has its own special work to do and that all parts work together as a whole? Are you aware that each part is composed of minute cells, and that even these cells are of different kinds and have their own work to do?

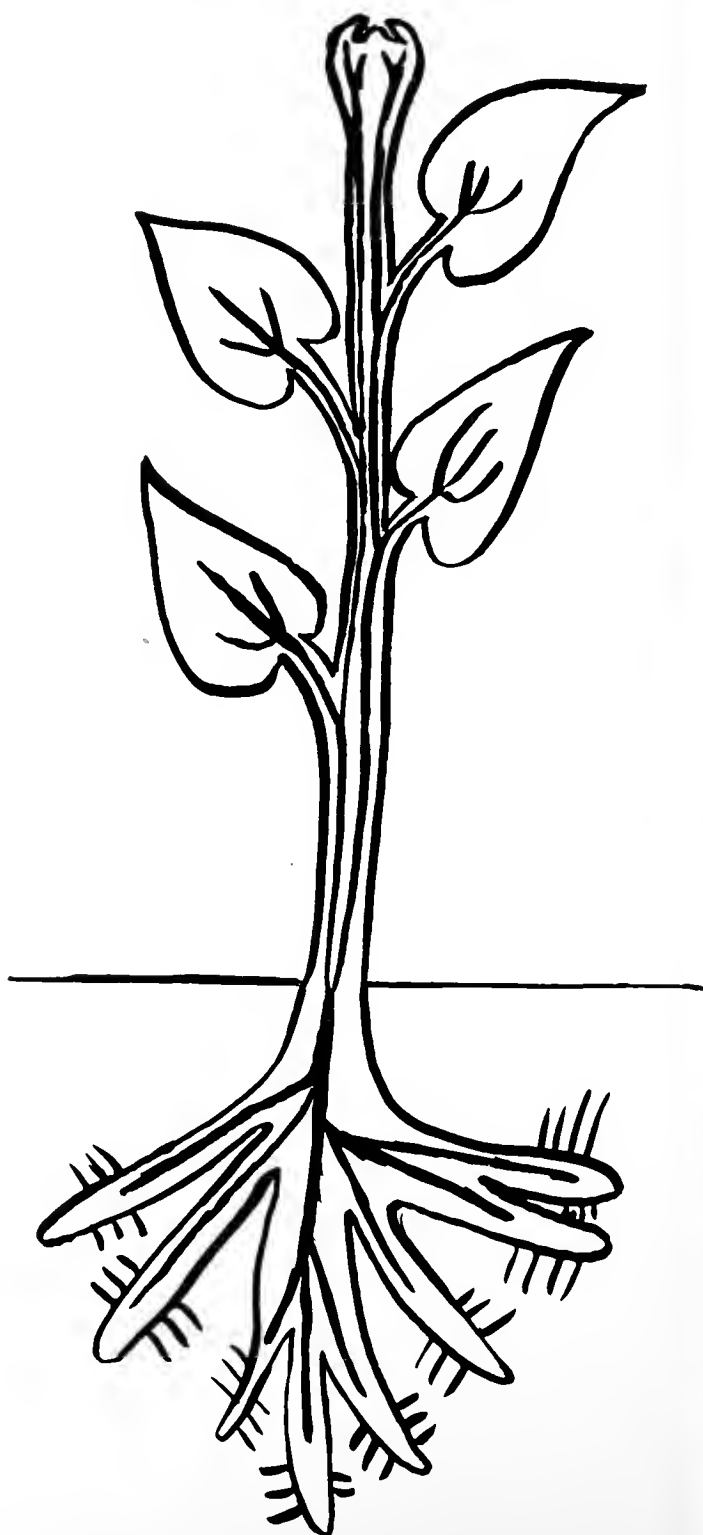
With this in mind, let us take a quick look at a typical plant, considering first the roots. Their most obvious function is to anchor the plant in place, but of far greater importance to the plant is the absorption of water and minerals. This absorption takes place in the root hairs, which are special elongated cells near the tips of the roots. Roots naturally must grow where there is moisture. Keeping this in mind would help some of us to develop better lawns, for a very common fault in lawn watering is to water too frequently and too little, maintaining a very shallow moist area in which the roots develop. A lawn watered less often and more deeply will be able to withstand periods of drouth which will injure or kill the shallow-rooted lawn. Soil kept constantly soaked does not permit air circulation, essential to the well-being of the roots.

In addition to these functions, roots are frequently storage places for food

which the plant has made—carrots and beets, for example.

The stem supports the leaves and is concerned with transportation of materials between roots and leaves. Some stems are also important storage places—the potato is an example of an underground stem modified for food storage.

The leaves of the green plant are food factories where most of the food used by the plant is made. This process is called photosynthesis, since light is necessary to the process. It takes place only in green parts of the plant, and carbon dioxide which enters through the openings in the



leaves and water which enters through the roots are necessary in the process. The food made is a sugar, which is quickly transformed to a starch. The whole process is complex, so we shall say no more of it at this time.

Since food is chiefly made in the leaves, the good gardener will give them every opportunity to carry out this function. For example, he will leave the leaves on his tulips until they turn yellow and are no longer active. Cutting off the green leaves weakens the bulbs and insures poor bloom the following year and short life for the bulbs. Likewise, the person who cuts his grass too short does not leave enough food making area to maintain a healthy root system—a very sound reason for suggesting that grass be cut no shorter than  $1\frac{1}{2}$ -2 inches.

Through minute openings in the leaves an exchange of gases necessary to the life of the plant takes place,

and water is lost to the outside air. Particularly in the case of house plants, these openings may become clogged with dust and frequent washings will help keep them open and functioning. Oiling the leaves can hardly help but clog the pores.

At a certain stage of maturity, the typical plant bears flowers and fruit for the obvious purpose of reproduction. This is a wonderful and complex process and can be considered in some detail later.

This very brief peek into the marvelous world of plants has given you not more than a "speaking acquaintance" with a typical plant. If you would like to venture further and learn more about plants and how they do their work, as well as reading about a few other interesting plant facts which you as a gardener may enjoy and benefit from knowing, watch for future articles in this column.

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*Grow* **MORE**  
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*W. W. Wilmore Nurseries*

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**HA 4-5584**

## WATER CONSERVATION

By SCOTT WILMORE

**T**HE summer and fall season of 1954 probably set a record for this area, since we have a very light fall of snow through the fall and winter season of 1953-1954, and consequently a very short run off of this melted snow for usage. Then too, an approximate six inch below normal of rain fall only served to increase this shortage, thus making a condition Denver and the immediate area has never faced before. This necessitated the restrictions being put in by the Denver Water Board which we all had to go along with, most of us gladly, since we had reasons to believe the conditions were serious and as represented.

It has always been the writer's opinion that more water was wasted than actually needed; by this I mean, the normal home owner can get along with 50% or less water than he actually uses. Probably there is more water wasted on lawns on a normal planting than on any other part of the garden. It is easy to set the hose and just allow it to run and move it from time to time, say every half hour, but instead one forgets and sometimes it is running for two hours or more in one spot before the housewife, owner or caretaker gets back to set the hose again in a new location. As a result a good part of this water is technically wasted. Frankly, once a lawn is established, one good deep irrigation a week will suffice for its needs even in the hottest weather. As a further conservation of water on lawns, if the lawn is aerated once a year this will also help. The aeration helps to loosen up the soil so the lawn will take water better and thus soak deeper and last longer with less water

than would have been the case if not aerated.

To a degree, most trees, shrubs and evergreens require a lot less water than they are actually given in normal cases. Again, in the hottest of weather, once every ten days or so will suffice provided the plant is deep irrigated by a slow trickle seeping at the base of the plant for an hour or more, depending on the size of the tree or evergreen. Of course, in annuals and perennials or shallow rooted plants, irrigation should be oftener and not so much at a time; every four or five days is sufficient in the hottest weather for this type of plant unless in an extremely hot location such as a south side of a wall or structure.

Water is vital to everyone in the Rocky Mountain area; without it we have nothing but a desert since we don't have the rainfall to keep things green. Consequently, all of us should conserve water, using only what is necessary, and not waste it. I further feel that more damage is done by the over-use of water than by under usage. Too many lawns get a yellowish cast where they are being over watered, and don't forget that your trees and shrubs will get chlorotic where they are getting too much water. *Use less water and use it more wisely.*



## COMMON SENSE PLANT CARE

**D**ON'T plant shrubs or trees too close to any foundation or building.

Don't over water your lawns, trees and shrubs.

Don't fertilize newly planted nursery stock during the first season.

Don't water your plants daily and then go away for two weeks and leave them go entirely dry.

Don't fertilize any crops or plants in the fall.

Do protect your young trees and shrubs of tender species by shading with a lath screen or burlap enclosure.

Do protect all young trees by wrapping them with special wrapping material, newspaper or any other protection.

Do protect all your newly planted and older trees and shrubs by mulching with good compost, leaf mold, or peat moss.

Do brace trees against wind during the first year or two.

Do a careful job in planting all new shrubs and trees, bare rooted or potted.

Do ask your neighbor, or qualified horticulturist for advice if you do not know the answer.



### SPECIALISTS IN THE PRESERVATION OF TREES

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**5825 W. Sixteenth Ave.**

**Phone BE 7-0446**

### HOW TO GROW GOOD WEEDS IN YOUR GARDEN

If you want a healthy stand of annual and perennial weeds in your garden during 1955, follow a few simple rules outlined hereafter; apply lots of barnyard manure regardless of source so that it may contain the greatest number of foreign or noxious weeds. Water heavily early in the season and keep on watering as much as possible so all the weeds will germinate. Start mowing your lawn just as soon as it gets an inch and a quarter high and cut it to about three

quarters of an inch so that the weeds may get all the light they can. Keep on removing all the clippings so that you will not force the weeds to seek more light by growing taller. If your weeds are going to bloom let them go to seed so you will not lose another fine stand for 1956. Do not apply any 2,4-D in amine form so that the weeds might be killed (the amine form has the lowest volatility and is certainly superior for home garden use over the ester forms of 2,4-D.) If you use 2,4-D use the ester form so that you can kill the roses and flowers in your neighbor's gardens too besides your own.



## WATCH FOR THESE TWO

The two insects that give gardeners cause for concern year after year are grasshoppers and aphids.

Grasshoppers are interesting insects. They hatch in late spring or early summer and feed on any type of forage such as young weeds or other succulent plant material. As they grow to adulthood they increase the size of their appetite continuously. Pretty soon empty lots and other uncultivated areas dry up and Mr. Grasshopper is looking for greener pastures—your garden and flowers. Mr. Grasshopper loves young green tender leaves for his diet. He will come, jump several feet at a time and then settle down to satisfy his tremendous appetite. After he has infested a certain area and taken his toll he will continue by jumping another few feet until of course he is right in the middle of your most precious flower garden. Control of grasshoppers is easy if it is started early enough. Several insecticides give excellent results if they are used at proper intervals and in recommended strength. Both Chlordane and Toxiphen are highly recommended. One tablespoon of 40 to 50% wettable powder per gallon of water will give excellent results. The most important aspect of grasshopper control is to spray the adjacent areas of your garden provided they are well overgrown with weeds and not cultivated regularly. By controlling the grasshoppers outside your garden it will be unnecessary to expose your flowers and vegetables to the damage of this insect before you can effectively control them.

Aphids are the other one of the common garden insects. The reason why aphids are of such importance is because they increase in numbers so rapidly if they are not controlled ef-

fectively and it is difficult to eliminate them altogether if they have gone too far. Aphids are sucking insects. They obtain their nourishment by sucking plant sap after piercing the outer layer of the leaf and eating on the most succulent portions of garden annuals and perennials. Aphids can be controlled effectively with a number of insecticides. One of the older recommendations includes Nicotine Sulfate to be used according to directions given by the manufacturer. Malathion is one of the newer insecticides excellent for the purpose of control of aphids and when it is purchased in combination with D.D.D. and Lindane the gardener has at his disposal an excellent all-around spray that will control most garden pests on all but green garden vegetables, on which of course, the use of such insecticides is not recommended. If aphids are controlled effectively early in the season they will usually not reappear until the nights are cooler and the conditions for them are again more favorable.

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## PESTS ON ROSES

The most important pests on roses in this area are aphids, snout beetles, and red spiders.

The control of aphids has already been discussed in a previous story because they are one of the two most common insects that Colorado gardeners can count on. The snout beetle, on the other hand, is the type of insect that is only controlled partially with insecticides. It is therefore necessary to check from time to time to see if any of their typical damage has been incurred to some of your roses. Their favorite point of attack is either a young bud or the neck or stem just below the bud, both when they are in soft stages. The snout beetle will pierce the epidermis and

insert through the proboscis some eggs which will later hatch and assure that snout beetles will later re-appear in your garden. The best means of discouraging snout beetles is to pick them off early in the morning by hand. This is the only fool-proof method against this rather intolerable garden pest. If left to themselves snout beetles can ruin hundreds of roses in a garden each year.

Red Spiders are really mites. They are very small and usually not observed unless the gardener pays specific attention and finds the tiny little webs that they leave behind. Red spiders are controlled very effectively with a general purpose spray such as malathion. If malathion is in combination with lindane and D.D.D., it will act over a longer period of time because of its prolonged effect against this insect.

## INSECT PESTS COMMON TO EVERGREENS

The two most common insects that infest the Juniper and Spruce families are red spider and aphids. Red spider is detected readily by the foliage turning to a yellowish green, and later to brown dead needles when the infestation gets real bad usually starting near the ground on upright trees, but appearing most any place on the prostrate or low growing types. Treatment: Dormant lime sulphur. For

summer control, consult your Nurserymen or Arborist. Use dusting sulphur or all-purpose dust or spray with wettable sulphur. Aphids are readily seen in colonies upon close examination, usually on the underneath side of the branches, or on the main stem near the top of the tree. When ants are noticed working around the branches of Evergreens, it is generally a sign of aphids being there. Easily controlled by spraying with Black Leaf 40, a tablespoon full to a gallon of water.

It is very important that anyone growing evergreens or roses learn how to keep them free of insects. We will guarantee that you will have infestations of bugs if you do not spray for these pests at least twice a year on evergreens and every ten days on roses. Rose spray: See your nurseryman for an all-purpose rose spray which contains an insecticide and fungicide.

!!\*\*\* !-?-!-? \*\*\*

For days on end a brassy sky  
Has left my garden parched and dry.  
I water thoroughly and with pains  
Till thirst is slacked—and then it rains!  
CLAIRE MILLER

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## PERSONAL MENTION\*

Betty Sawyer is one of the gals who does her own gardening. She is very happy when the Doctor helps her. You can tell from the looks of the garden that they both love it.

---

As you drive along on East 7th Avenue, stop at 1300 to see a beautiful green and white picture, the garden of George and Anna Garrey. In front of Bolleana Poplars, grow Ferns, Funkia and Saxifrage and strangely enough, all summer long, it is gay with fragrant, mammoth white Petunias.

---

White is used beautifully, too, in the Frank McLister garden. One who is so clever at flower arrangements as Mrs. McLister, cannot fail to place the right plant in the right place as she has in her back-of-a-wall, of just-right height garden on Westwood Drive.

---

You never need to worry about your trees, if you have John Swingle or Earl Sinnamon do the work. They are our experts at pruning, spraying and transplanting large trees. So, to be sure, call KEystone 4-4776.

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Mrs. John Evans, honorary President of the Colorado Forestry and Horticulture Association, supervises her entire beautiful gardens. All new areas are planned and carried out by her and Mr. Evans. She is also Chairman of the Board of Directors of the Botanical Gardens Foundation of Denver, Inc. Indeed, we have a superior executive in our beloved Mrs. Evans.

You can hardly keep up with what Ruth and Scott Wilmore are doing at the Wilmore Nurseries. When you look over the fine slat-house, be sure to see what is growing inside. Then, too, we are anxiously waiting the announcement of the opening of their new Garden Shop; perhaps the cynosure of all.

---

What is your hobby? Is it gardening or is it pets? If it is either, do stop out at Charlie Dietrich's LAKEWOOD, SEED AND PET CO. They have everything for gardens and pets. You will like the ready welcome awaiting you here at 8525 W. Colfax.

---

Long before she moved into her beautiful home, Mrs. Gerald Hughes was on the grounds. She, herself, placed every tree, shrub and perennial plant growing there. Today it is one of the finest estates in Denver.

---

Clair Robinson,—the right man in the right place. He is "the doctor" for the Roses at City Park. He has a special way with the QUEEN OF FLOWERS. He wants the young men, coming along to be gardeners also; and has organized a group, who meet weekly for Garden study, under expert lecturers, at Horticulture House.

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Broadview Nursery — the M. J. Webber Nursery, Simms Street, at 64th. HA 4-3132. Besides regular stock, Mrs. Webber is showing interesting, small seedlings in some choice varieties.

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\*(Adv.)

When you go to Boulder (and it is easy now with two excellent roads, the "Hogback" having just been finished) do not fail to visit the gardens of Dr. Jack and Dorothy Bartholomew. Make it in "Tulip Time", when hundreds of bulbs will be blooming on the beautiful hillside of the Bartholomew garden.

Lemoine Bechtold is doing other things besides running a big music business. Go out and see the hybrid Daylilies he is preparing for the garden world, with touches of pink and red already in their petals.

The partying Helen Fontius takes time out to have a most attractive garden. Back of her unusual house she has a problem of shade and sun in the same area, which she has worked out perfectly, selecting the right plants for both cultures. She also has very choice and carefully chosen Iris.

Going along West 44th, toward Golden, you come onto one of the most unique Rock Gardens in the state. It is owned, was planned and built by Beulah Son (Sonny), the Florist of Golden. The rock garden is built on a beautiful slope—hence the name "Sonny Slope". She does not object to your copying it—it is worthwhile and there is nothing like it in Colorado.

Don Steele wants to make you happy. Have him trim your shrubs and evergreens. The charge is reasonable, too. HA 4-7203.

\*(Advertising)

Mrs. Bob Howsam has a special gleam in her eyes these days—her daddy, you know was just elected Governor of Colorado: and Bob takes special pride in keeping the playing field of the magnificent stadium in perfect condition for his Denver Bears.

House and Garden could do no better than write up for that valuable magazine, the home of the J. W. Ringsbys in Belcaro Drive. It is one of Denver's leading homes.

The Munro Lyeths have a garden in the Polo Grounds. S. R. DeBoer was the architect. Mrs. Lyeth is out in her garden every day, she takes care of it all, and should you go out there, you will never forget her, her house, nor her garden!

**SHADOW VALLEY GARDENS** will have many plants in pots this year. Try ground-covers in places where grass is slow to grow—Sedums, Sempervivums, Dwarf perennials, Trailers, et cetera, for sun or shade; all hardy in the Rocky Mountain area.

The Ben Essig garden is one of the loveliest in Denver. You might guess this if you knew the care with which they both select their plants; and daughter Marylyn is doing an Herculean job of turning a ranch and a ranch house into one of Boulder's prettiest suburban places.

---

For that son or daughter with the new home, nothing will be more appreciated than a copy of the "Bible" for Colorado Gardeners:

**ROCKY MOUNTAIN HORTICULTURE IS DIFFERENT**  
**GREEN THUMB COUNCIL, 1355 Bannock, or at any book store—\$1.50**

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## HOW TO SELECT THE RIGHT PLANT FOR EACH SITUATION

By GEORGE W. KELLY

**F**IRST the general plan should be worked out and all the features and effects definitely planned. Then, plants and material should be selected which will most nearly give the effects desired under the circumstances that must be worked with. It must be continually kept in mind that growing conditions here are vastly different from those in the older populated centers of the east where most of the horticultural literature is written.

More attention should be given to selecting plants which will grow to a size and of a character which will give the desired effect for the greatest length of time; yet it must be remembered that plants are living things and so are continually changing—either growing larger or becoming mature or damaged and dying. Sometimes a certain plant may only be expected to give ten or twenty years of service and then should be replaced with a new plant, while some slow growing things may be placed where they may grow and become better each year of their life.

Trees which grow rapidly and eventually become large should not be placed so close together or to buildings or wires that they soon conflict and must be seriously damaged by cutting back. Shrubs may be selected which will soon get to the desired height but will never get too large.

Let us suppose a few typical situations and see how we would go about selecting the right plant. First we will need two parking trees, let us say. We have 75 feet front and no wires near so two trees which eventually grow large would be suit-

able. In the list of tall trees for street use we will find the best trees listed. If we have good soil and take care of them we may select from the better but more difficult ones such as Red Oak, Schwedler Maple, or American Linden; but if our soil is poor or alkaline or we know we will have difficulty in watering them we will select from the hardier ones such as Hackberry, Honeylocust or Ash.

Let us suppose then that we need some shrubs for the north side of the house to make a screen between our place and the neighbor's kitchen window. We will select from those in the "tall" list that also are in the list of those that will tolerate shade. Here we will find some of the Mockoranges, Honeysuckles and Viburnums. If a variety of bloom and fall effects are wanted select one or several from each of these groups.

Another situation might be a vine to cover a trellis built to screen the ashpit. We need a hardy vine and one that will grow quickly and will give a screening effect for the greater part of the year. When the list of available vines is studied it will be found the Hall's Japanese Honeysuckle, Virgin's Bower Clematis or Silverlace Vine will come close to filling all these requirements.

Let us suppose that all the various situations called for in the landscape plan are filled this way and one area is left where the soil is good, the sunlight sufficient and the facilities for watering are adequate. Here we may play with some of the borderline, new or questionable things that are advertised in the beautiful catalogs of other areas. If they grow, possibly



we will have discovered a new plant and we can crow to all our gardener friends, and if they do not grow, we can charge it to experience and tell no one about it.

Whenever it is possible, the prospective gardener should arrange trips

around to good gardens and parks with some one who knows the plant materials and can point out the good and bad qualities of each. Learning plant material this way will save many disappointments.

## DECIDUOUS TREES

### **Large Street or Shade, Hardy and Drouth Resistant**

Honeylocust—drouth resistant, makes thin shade, sometimes has thorns and pods. The "Moraine" type has no thorns or pods.

Common Hackberry—very drouth resistant, has few pests, difficult to transplant.

Ash, Green or White—slow growing, has few pests, drouth resistant.

Elm, American and English—easy to grow, has many pests.

Western Catalpa — attractive leaves, pods, and flowers, drops pods and flowers.

Soft Maple — clean medium fast growth, shallow roots, likes Colorado climate unless soil is too alkaline.

### **Large, Street or Shade, More Difficult to Grow**

Aesculus, Horsechestnut, Ohio and Yellow Buckeye — symmetrical shape, attractive flowers, deep rooted, have few pests.

Kentucky Coffeetree—slow growing, hardy, deep rooted.

Linden, American and European Little Leaf — symmetrical habit of growth, net, young trees sometimes winterburn.

Black Walnut — needs deep soil, coarse appearing tree.

Bur Oak—hardy, slow growing, most alkalali resistant of oaks, no fall color.

Hard Maples, Norway, Schwedler, Sugar and Planetree—slow growing, difficult to transplant, subject to winterburn, good fall color.

Oak, Red, Pin, and English—slow growing, require special transplanting care, good fall color.

Sycamore—clean tree, not tolerant of alkali, hard to transplant.

Mulberry — good fruit, subject to some winterkill especially in northern part of state.

Birch, European White, Cutleaf Weeping, Paper — graceful shape, white bark. A little hard to establish.

Black Cherry—beautiful tree, subject to winterburn.

### **Large, Street or Shade, For Difficult Situations in the Mountains or on Plains Only**

Plains Poplar or Cottonwood—largest and hardiest of the poplars, spreading shape needs plenty of room and water. Plant only male or cottonless trees.

Narrowleaf Cottonwood — neat upright growth, rapid, will grow in high altitude.

Smoothbark Poplar—intermediate between plains poplar, and narrowleaf poplar.

Balsam Poplar—smaller, more irregular tree for very high altitudes.

Boxelder—tolerant of drouth, alkali, and high altitude, short lived and has serious insect pests.

Siberian (Chinese) Elm—quick growing, drouth resistant, short lived, subject to storm damage.

Willows—quick growing, short lived, rank feeders, easily broken in storms.

Carolina Poplar — should never be planted as a street tree.

Treeofheaven, Ailanthus — tolerates drouth, smoke, poor soil, suckers badly.

### Tall and Slim

Poplars, Lombardy, Bolleana, and Chinese—all severely damaged by insects and diseases. See your nurseryman for recommended new tall and slim trees of other kinds.)

### Small Hardy

Mountain Ash, American and European — neat, upright, attractive fruit in fall.

Flowering Crabapples, Hopa, Eley, Redsilver, Redvein—attractive rose-red flowers, hardy.

Dolga Crabapple—white flowers, attractive and edible red fruit.

Hawthorn, Downy, Colorado and Cockspur—attractive white flowers, red fruit.

Russianolive—very hardy and adaptable, persistent fruit, gray leaves.

Sour cherries—attractive flowers, useful fruit, symmetrical shape.

### Small, More Difficult to Grow

Hawthorns, English and Washington —slow growing, attractive flowers and fruits.

Dwarf Maple, English Hedge and Amur — slow growing, good fall color.

Crabapple, Bechtel — attractive light pink flowers, slow growing, subject to fire blight.

Japanese Pagoda Tree—spreading, attractive flowers and fruits.

Goldenraintree — attractive flowers, and persistent fruit, difficult to start.

Chinese Catalpa—attractive flowers, pods and leaves.

Texas Black Walnut — More rapid growing than eastern black walnut, deep rooted.

Quaking Aspen—white bark, spreading, difficult to transplant.

Siberian Apricot—hardy as a tree, but bloom and fruit unreliable.

### Good Blooming Trees

Crabapples	Plums
Catalpa	Goldenraintree
Cherries	Japanese Tree
Apricots	Lilac
Hawthorns	New Mexican
Mountain Ash	Locust

## PLANTS THAT PLEASE

EVERGREENS  
SHRUBS  
TREES

ROSES  
VINES  
PERENNIALS

SEEDS  
FERTILIZER  
GARDEN SUPPLIES

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EA 2-3498

**Formal Shaped Trees**

Buckeye	Linden
Mountain Ash	Washington
Horsechestnut	Thorn
Bechtel Crab-apple	

**Informal Shaped Trees**

Catalpa	Goldenraintree
Apricot	Japanese Tree
Mountain Alder	Lilac
Russianolive	Japanese Pagoda Tree
Amur Maple	
Redvein Crab-apple	

**Spreading Trees**

Honeylocust	Cockspur Thorn
Plains Cottonwood	Kentucky Coffee-tree
Russianolive	Redvein Crab
American Elm	Jap. Pagoda Tree
Willows	

**Narrow Trees**

Mountain Ash	Chinese Catalpa
English Hawthorn	Smoothbark Poplar
Hopa Crab	

**Heavy Shade Trees**

Catalpa	Poplars
Linden	

**Light Shade Trees**

Honeylocust	Willows
Birch	

**EVERGREENS**

I—Indicates usefulness in irrigated areas. M—In mountains. P—On the plains.

**TALL—20-60 FEET**

Ponderosa Pine MP—A coarse, irregular, native tree. Suitable for informal use where there is plenty of room. Drought resistant.

Austrian Pine MP—Similar in size and habit to the Ponderosa Pine, but darker and denser.

Scotch Pine P—The most rapid growing of all pines for this area. Grows in tall open effect, not as beautiful as either Austrian or Ponderosa Pine.

White Pine I — Graceful habit of growth and soft green needles. Subject to winterburn when young.

Limber Pine IMP—Our native white pine. Slow, irregular growth. Should be used more.

Bristlecone Pine IMP—Another native, 5-needle pine. Naturally slow branching growth which habit may be encouraged by yearly pinching.

Lodgepole Pine IM—A tall, slim native, with yellow-green needles. Makes a good specimen tree when it is given room.

Colorado Spruce IM—Seedlings may vary from green to blue and silver. A stiff, symmetrical tree. Eventually becomes very large.

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Englemann Spruce M—A native of high altitudes. Seldom as good in color or shape as the Colorado.

Black Hills Spruce I—Short needles and dense habit of growth. May be kept small by pinching the candles.

White Fir IM—Our most beautiful native tree. Of much the color and habit of Blue Spruce, but softer effect. Subject to winterburn when small.

Douglasfir M—The Christmas tree of this area. Similar in habit to Spruce but of softer effect. Should not be planted with spruce because of insect damage.

Alpine Fir M—Tall erect tree, native to the high mountains. Seldom used in ornamental plantings.

Pinyon Pine IP—Irregularly round in habit. Likes a dry warm place. May be trained to stay small indefinitely.

Rocky Mountain Juniper IMP—Native on the eastern slope of the Continental Divide. Usually tall and symmetrical. Varies in character from seedlings. Named grafts are becoming most popular.

Redcedar IP — The eastern, native Juniper which generally is poorer in color than our Rocky Mountain native. Some good grafts have been introduced.

Oneseed and Utah Junipers IMP—Similar in habit. Often irregular and many stemmed. Generally round in character. Tolerates dry, hot conditions.

#### LOW—2-6 FEET

Mugho Pine I—Seedlings from various sources may vary 2 feet to 10 feet high at maturity. May be clipped to keep them dwarf and dense. Tolerant to heat but not shade.

Mountain Common Juniper M—A hardy native. Variable, but gen-

erally beautiful except towards spring when they are often brown.

Pfitzer Juniper IMP—The best all around evergreen of this size. Rapid, feathery growth, virtually pest free. May be sheared into any shape.

Savin Juniper I—Well-known but not as good as the Pfitzer as it becomes bare and leggy with age.

Vonehron Savin Juniper I — Very rapid growth, somewhat similar to the Pfitzer.

Tamarix Juniper I—Dense, mounded habit of growth, fine winter color. The best of its size, seldom growing over 3 feet tall.

Dwarf Alberta Spruce I—If planted on the north or east side of the residence is hardy and furnishes a specimen plant in miniature that is distinctive and unusual.

#### CREEPERS—6 INCHES TO 2 FEET

Andorra Juniper I — Irregularly spreading. Turns purple in winter.

Dwarf Japgarden Juniper I—Dense, good green winter color.

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## THE BEST SHRUB FOR ANY SITUATION

To help new home owners select the most suitable shrub to fill each need we have made lists of shrubs in many classifications which should include almost every condition where shrubs could appropriately be used. By consulting these lists a shrub can be selected which will fill the requirements for ultimate size, character, bloom hardness or ability to take shearing.

### Shrubs for a Tall, Informal Screen (6 to 8 feet).

Gray Dogwood	Redtwig Dogwood
Privet	Beautybush
Euonymus	Mock Oranges
Serviceberry	Buckthorn
Redleaf Rose	Common Lilac
Manchu Cherry	Chokecherry
Hoptree	Sumacs
Nannyberry	Arrowwood
Shrub Willows	Native Mountainash
Bush Honeysuckles	Siberian Peashrub
Redleaf Plum	Ninebark
Flowering Plum	Late Lilac
Highbush Cran-	Tamarix
berry	Hawthorns
Snowball	

### Tall Shrubs to use as Specimens or in prominent places.

Ginnala Maple	French Hybrid
Wahoo (Euony-	Lilacs
mus)	Washington
Wayfaringtree	Hawthorn
(Viburnum)	Flowering Plum
Thimbleberry	Rose-acacia
Pauls Scarlet	Hardy Buddleia
Hawthorn	Tree Lilac
	Redleaf Rose

Tall plants suitable to make a clipped hedge 6 to 8 feet high.

Russianolive	Chinese Elm
Bush Honeysuckle	Buckthorn
Persian Lilac	Siberian Peashrub
Hawthorns	Privet
Oneseed Juniper	Pfitzer Juniper

### Medium height Shrubs (3 to 6 feet) used as an informal border.

Redtwig Dogwood	Mugho Pine
Shrub Roses	Cotoneaster
Thimbleberry	Spirea arguta
Korean Spirea	Gooseberries
Alpine Currant	Dwarf Ninebark
Flowering Almond	Spirea Vanhouttei
Flowering Quince	Lemoine Mock
Golden Currant	Orange
Sorbaria	Pfitzer Juniper
Rock Spirea	

### Medium height shrubs for prominent places or specimens.

Winged Euonymus	Forsythia
Austrian Copper	Korean Spirea
Rose	Redleaf Rose
Lilac Honeysuckle	Apache Plumes
Korean Barberry	Thimbleberry
Hybrid Mock	
Orange	

### Medium height shrubs to be clipped for a hedge.

Privet	Lemoine Mock
Cotoneaster	Orange
Alpine Currant	Columnberry
Spireas	Pfitzer Juniper
Dwarf Ninebark	

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Shrubs for a low, Informal Boundary (under 3 feet).

Sandcherry	Leadplant
Lemoine Mock	Russian Almond
Orange	Japanese Barberry
Alpine Currant	Bush Cinquefoil
Dwarf Peashrub	Wild Roses
Coralberry	Wild Gooseberry
Frobell Spirea	Snowberry
Redleaf Barberry	Tamarixleaf Juniper
Floribunda roses	

Low, Formally Clipped Hedge.

Lodense Privet	Dwarf Ninebark
Columnberry	Spirea arguta
Lemoine Mock	Dwarf Peashrub
Orange	Japanese Barberry
Alpine Currant	

Shrubs for Shady Places.

Forsythia	Euonymus
Elderberry	Viburnum dentatum
Viburnum carlesi	Hydrangea
Ribes aureum	Currants
Privet	Dogwood
Snowberry	Coralberry
Honeysuckles	Mock Orange

Shrubs for Hot, Dry or Alkaline Places (such as south of a house or on the plains).

Sumac	Bush Honeysuckles
Buckthorn	Tamarix
Wild Plum	False Indigo
Chokecherry	Privet
Elderberry	Siberian Peashrub
Lilacs	Snowball
Buffaloberry	Flowering Quince
Cotoneaster	Rock Spirea
Matrimony Vine	Oldman Wormwood
Flowering Quince	Shrub Roses
Althea	Snowberry
Forsythia	Yucca
Leadplant	Coralberry
Japanese Barberry	Bush Cinquefoil

Shrubs to use in the Mountains, at altitudes of 6,000 to 9,000 feet.

#### TALL

Chokecherry	Bush Honeysuckles
Lilacs	Highbush Cranberry
Hawthorns	Shrub Willows
Serviceberry	Siberian Peashrub
Nannyberry	Redtwig Dogwood

#### MEDIUM

Korean Spirea	Shrub Roses
Wax Currant	Golden Currant
Thimbleberry	Rock Spirea

#### LOW

Gooseberries	Bush Cinquefoil
Snowberries	Sandcherry
Low Ninebark	Alpine Currant

Ornamental Plants which also furnish edible fruit for human use.

Crabapples	Gooseberries
Thimbleberry	Chokecherry
Currants	Plums
Grapes	Buffaloberry
Mulberry	Nanking Cherry
Elderberry	Sandcherry

Shrubs having fruits to attract Birds and add color in Fall. All the above and the following:

Barberry	Roses
Euonymus	Pincherry
Junipers	Engelmann Ivy
Sumacs	Mountainash
Cotoneaster	Viburnums
Honeysuckles	Dogwood
Russianolive	Hackberry
Buckthorn	Privet
Coralberry	Hawthorns
Hercules Club	Snowberries

Shrubs to give Fall Color:

Sumacs	Ginnala Maple
Barberry	Engelmann Ivy
Cotoneaster	Shrub Roses
Euonymus	Viburnums

Shrubs for color of bloom:

#### Yellow

Forsythia	Flowering Currant
Siberian Peashrub	Bush Cinquefoil
Shrub Roses	

#### Pink and Red

Flowering Almond	Flowering Quince
Nanking Cherry	Apples
Lilacs	Roses
Honeysuckles	Rose-acacia
Beautybush	Althea

#### White

Spireas	Plums
Cherries	Ninebark
Viburnums	Mountainash
Mock Orange	Privet
Sorbaria	Thimbleberry
Snowball	Elderberry

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## ROSES

There are many ways that the various types of roses may be used in a garden to add to its beauty.

### Shrub Roses

A number of kinds of shrub roses may be mixed in with the shrub border or planted as specimens. Especially hardy here are the Harison's Yellow, Austrian Copper, Persian Yellow and Hugonis. The Redleaf rose has very small pink flowers, but beautiful red leaves and red winter fruits. The Sweetbriar, Prairie and Meadow roses are useful and attractive in the right place. The Rugosas are not so happy here if the soil is especially alkaline.

### Climbers

The climbers may be used to cover a fence or trellis or even sprawl over a bank. The oldtimers such as Paul's

Scarlet, American Beauty, American Pillar and Dorothy Perkins are very hardy and effective, while the new climbing types of tea roses are more attractive when in bloom but not always hardy.

### Floribundas, Polyanthas and Grandifloras

This is a variable class of roses coming in somewhere between the Hybrid teas and the hardier climbers and shrub roses. They are generally smaller flowered than the Hybrid teas, but freer flowering and hardier. They are useful for adding summer-long color to borders, beds, foundations or hedges. They grade gradually from the smaller bunch types of the polyanthas through the floribundas to the larger flowered grandifloras which are only a little smaller than the Hybrid teas.



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### Tree and Miniature Roses

Tree roses are simply Hybrid teas grafted on a tall stem so that they are more nearly at eye level. As this "tree" stem is only as hardy as any hybrid tea they must be layed down in fall and covered with soil over winter to enable them to survive.

The miniatures are dainty little things but a few inches tall. A few should be in every garden.

### Hybrid Teas

By far the largest number of roses grown are Hybrid Teas. These are the common roses grown usually in beds, not so much for their landscape value as for their large individual bloom. The beds where they are grown need to be carefully designed so that they add as much as possible to the whole garden picture. Often the rose bed will receive as much attention as all the other garden plants put together. The list of desirable hybrid tea roses runs into thousands of varieties and every rose enthusiast has his preferences.

One list of "best" roses includes the following: Crimson Glory, Peace, Charlotte Armstrong, Etoile de Hollande, Mme. Henri Guillot, Eclipse, Good News, Mrs. Sam McGredy,

Grande Duchesse Charlotte, Golden Dawn, Countess Vandal, Mme. Cochet-cochet.

For complete information on the planting and care of roses get the April 1954 issue of the Green Thumb, which may be purchased at Horticulture House for 50c.

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## VINES FOR ALL PURPOSES

Vines of various kinds may be made to fill a very important place in landscape planting. Each situation and exposure calls for a vine of particular characteristics to fit that place, and many of the commonly recommended vines used in the East are not happy here, so it is well to learn a little about the vines that can be expected to grow here and the environment that they prefer.

There is little choice in vines to cling to a wall which is in the sun on the south or west. The common Engelmann Virginia Creeper and its refined relative the St. Paul Virginia Creeper are about the only suitable plants. The common Engelmann is rather coarse and too rapid growing but the St. Paul is slower growing and has more sticking disks to help cling to a wall.

On shady north walls and sometimes east walls there are several nice clinging vines, including the Boston Ivy, the English Ivy and the Winter-creeper Euonymus. These are all slow growing, neat in habit and the last two are evergreen.

In sunny locations where there is a fence or trellis to support them there are many good vines which will make a nice showing. Wisteria and Trumpet-vine are slow growing and frequently kill back in winter when young but eventually form large plants with almost tree-like stems. The Trumpet-vine blooms freely but the Wisteria is temperamental in this respect, apparently only blooming when it gets good and ready.

The Bittersweet vine will grow under favorable conditions but is temperamental as to blooming. They do not readily self pollinize so there is greater assurance of bloom and fruit

when two or more are planted close together.

Grapes, especially the hardy "Beta" hybrid, will quickly cover trellises and arbors and often also produce good fruit for juice and jelly. Climbing roses, of course, fill an important place in covering fences and arches. The oldtimers are, generally, hardier here: the Paul's Scarlet still leading the parade and such as American Beauty, Dorothy Perkins and American Pillar following. The climbing types of hybrid tea roses are generally not hardy here.

For a vine to grow over fences and arbors in full sun and poor soil probably nothing equals the Silverlace Vine.

For shady and partly shady locations we can rely on a great variety of Clematis and Honeysuckles. Everyone knows the Purple or Jackman Clematis which is a little hard to start but makes a wonderful display of bloom in summer. Few realize that there are other large flowered clematis which will grow here with proper care. The white Henry Clematis and the wine-colored Duchess of Albany are occasionally seen. There are several medium sized clematis which are very easily grown. The red *C. texensis*, the purple *C. crispa* and the yellow *C. tangutica* and *orientalis* adapt themselves to culture here readily. The small white stars of the Sweet Autumn clematis will make a beautiful and fragrant cloud over an otherwise drab fence. The native counterpart *C. ligusticifolia* is hardier, blooms earlier and is not fragrant. There are several non-climbing clematis which are grown as garden perennials. These include such as *C. recta*, white; and *C. davidiana*, blue. The best known of the honeysuckle vines are the Hall's Japanese with fragrant creamy white bloom and the

Scarlet Trumpet with brilliant red bloom and no fragrance. Recently the "Goldflame" with red and orange bloom has become popular. There are several others that might be grown here with care. In general all the clematis and honeysuckles like a deep, moist and fairly rich soil with good drainage.

There are several annual vines which can be used temporarily and will give nice displays of colored bloom. These include the Morning Glories, the Flowering Beans and that very rapid grower the Wild Cucumber. The Hop vine is a peren-

nial which grows rapidly every summer, covers a fence completely and dies down until the next spring.

For ground covers in the shade the English Ivy and Hall's Honeysuckle are often used. Ground covers in sun would include the Engelmann Ivy and Hall's Honeysuckle.

A dainty little vine for covering rocks in a rockery is the *Euonymus minimus*.

There will be several other vines occasionally found but they need more trials before they can be generally recommended.

## FRUIT FOR EASTERN COLORADO

In the shorter season of the irrigated lands and plains of the eastern slope not many of the fine fruits of the western slope valleys will do well, but there are a number of trees that will give good results when planted as an orchard tree or as a dual-purpose tree for ornament and fruit.

The Montmorency cherry is probably one of the best for this purpose as it does not grow too large, is beautiful in flower or fruit and produces good fruit almost every year. Apples are a little less reliable and take up more room. Delicious, Jonathan, Ro-

man Beauty, Red June, Red Sheriff Early McIntosh, Cortland and Haralson are popular varieties.

Plums are generally small in size, informal in shape and produce fruit occasionally. Stanley, Green Gage and Superior are a few of the larger type. Waneta, Kaga, Opata and Compass are typical of the smaller, hardier, hybrid plums.

Peaches, Apricots, Sweet Cherries and pears are generally a gamble, though occasionally a tree will survive in a protected place and give fruit well worth the space it takes.

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## Grass Seed For Lawns

Kentucky Bluegrass is still the top grass for Colorado lawns whether in irrigated areas, the mountains or the plains. It will stand much abuse and still survive, but will respond to good care with a beautiful green lawn. Merion Bluegrass seems to have some qualities of drouth resistance and of spreading which may show it to be slightly superior to the Kentucky Bluegrass. Redtop is a fine bladed grass sometimes sown with bluegrass. It will often disappear in a few years. The Bentgrasses form dense mats which choke out weeds where conditions are favorable to their growth. They do not stay green as long in fall or spring and must have special care as to soil, sunshine, water and mowing. They are easily damaged by weed killer. Common Ryegrass is often in lawn mixtures as a nurse crop because it comes fast, but it is a coarse grass and really not suitable for a good permanent lawn. Some of the Fescue grasses are sometimes sown with Kentucky Blue as they will tolerate unfavorable conditions and often take over where the bluegrass cannot. White Dutch clover is often planted with Kentucky Blue as it acts as a nurse crop to assist the young grass. Many people do not like the spotty effect that it gives a lawn. Crested wheatgrass and Buffalo grass are being planted more and more in dry areas for rough lawns. Rough-stalked Meadow Grass, (*Poa trivialis*), is a form of Bluegrass that will tolerate more shade than the Kentucky Blue.

The proper planting and care of a lawn is as important as the selection of seed. Below Armin Barteldes gives some brief tips on lawns.

"For new lawns it is important to first condition the soil. If it is too sandy add sufficient high-quality peat-

moss or weed-free manure (if you can get it); if too heavy use Krillium or some other soil conditioner, peat-moss, manure, vermiculite or coarse sand. Spade or plow to a depth of at least 4 to 6 inches and pulverize thoroughly.

"Sow good grass seed and cover entire area with peat-moss about  $\frac{1}{4}$  inch deep. Water thoroughly, using a fine spray. Keep the ground moist, but not sopping wet until the grass is up, then water once or twice a day for a few weeks. When the lawn is thoroughly established water only as needed, but always THOROUGHLY.

"Save water. If you will aerify your lawn early in the spring and hold off early watering the grass roots will go deeper and you will not need to water much during the summer. Bent grasses are an exception and should be watered, even in the winter, during dry spells. DON'T WATER YOUR GRASS UNTIL IT NEEDS IT AND THEN GIVE IT A GOOD SOAKING.

"For surface applications after the grass is well up the commercial fertilizers are far superior to manures. The swing now is towards applying these oftener and at lower rates of application."

For complete information on the planting and care of lawns get the August 1954 issue of the GREEN THUMB which may be purchased at Horticulture House for 35c.

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# PERENNIALS AND BULBS

## GENERAL USE

Common yarrow	Tickseed, coreopsis	Coralbells	Flax
Monkshood	Lily-of-valley	Marsh mallow	False dragonhead
Bishop's weed	Dahlias	Hollyhocks	Balloon flower
Anchusa	Delphinium	Plantain lily	Polemonium
Anemone	Pinks or carnations	Candytuft	Bistort
Columbine	Bleeding Heart	Iris	English primrose
Butterflyweed	Gas plant	Perennial sweet pea	Buttercups
Asters, Fall	Foxglove	Blazing star	Goldenglow
Tuberous begonia	Globe thistle	Lilies	Blue sage
Plume Poppy	Desertcandle	Phlox	Pincushion flower
Boltonia	Seaholly	Lupine	Golden rod
Bellflower	Four o'clock	Maltese cross	Sea lavender
Canna	Gaillardia	Beebalm	Stokes' aster
Cornflower	Geum	Chiming bells	Meadow rue
Plumbago	Gladiolus	Forget-me-not	Tiger flower
Clematis, recta	Ornamental grass	Evening primrose	Globe flower
and davidiana	Babysbreath	Oriental poppy	Tuberose
Chrysanthemum	Sneezeweed	Iceland poppy	Garden heliotrope
Painted Daisy	Sunflower	Peony	Speedwell
Shasta Daisy	Daylilies	Beardstongue	Viola

## CUT FLOWERS

Common yarrow	Lily-of-valley	Coralbells	Balloon flower
Monkshood	Dahlia	Plantain lily	Buttercup
Anchusa	Delphinium	Candytuft	Goldenglow
Anemone	Carnation	Iris	Pincushion flower
Anthemis	Bleeding heart	Perennial sweet pea	Goldenrod
Tuberous begonia	Foxglove	Lilies	Sea lavender
Boltonia	Globe thistle	Lupines	Stokes' aster
Baptisia	Seaholly	Maltese cross	Meadow rue
Bellflower	Gaillardia	Chiming bells	Tiger flower
Cornflower	Gladiolus	Oriental poppy	Globe flower
Clematis	Ornamental grass	Iceland poppy	Tuberose
Chrysanthemum	Babysbreath	Peony	Garden heliotrope
Painted daisy	Sneezeweed	Beardstongue	Speedwell
Shasta daisy	Sunflower	Phlox	Viola
Tickseed, coreopsis	Daylilies	False dragonhead	

## SUNNY SANDY SOIL

Anemone	Globe thistle	Candytuft	Beardstongue
Yarrow	Desert Candle	Iris	Flax
Anthemis	Seaholly	Perennial sweet pea	Bistort
Butterfly weed	Four o'clock	Blazing star	Buttercups
Asters	Gaillardia	Lilies	Blue sage
Boltonia	Geum	Phlox	Goldenrod
Cornflower	Gladiolus	Maltese cross	Stokes' aster
Chrysanthemums	Ornamental grass	Beebalm	Speedwell
Painted daisy	Babysbreath	Evening primrose	Viola
Shasta daisy	Sneezeweed	Oriental poppy	
Pinks	Sunflower	Iceland poppy	

## MAY BLOOM

Columbines, B.R.	Pinks, V	Chiming bells, B	Globe flower, Y
Bellflower, BWP	Daylily, V	Oriental poppy, V	Tuberose, W
Cornflower, B	Flax, B	Peony, V	Viola, V
Lily-of-valley, W	Iris, V	English primrose, V	

## JUNE BLOOM

Anchusa, B	Bleeding heart, P	Lily, V	Balloon flower, WL
Anthemis, Y, W	Gas plant, WP	Flax, B	Polemonium, BW
False Indigo, B	Foxgloves, RPW	Lupine, V	English primrose, V
Bellflower, BWP	Four o'clock, V	Chiming bells, B	Buttercup, Y
Cornflower, B	Gaillardia, YR	Forget-me-not, B	Goldenglow, Y
Clematis, WB	Geum, R	Oriental poppy, POR	Globe flower, Y
Painted daisy, RP	Babysbreath, W	Iceland poppy, V	Garden heliotrope, B
Shasta daisy, W	Daylilies, V	Peony, V	Speedwell, B
Tickseed, Y	Coralbells, RP	Beardstongue, V	Viola, V
Lily-of-valley, W	Hollyhocks, V	False dragonhead, WL	
Delphinium, V	Iris, V		
Pinks, carnations, V	Sweet pea, P		

## JULY BLOOM

Anchusa, B	Delphinium, V	Daylily, V	Iceland poppy, V
Anthemis, YW	Pinks, carnations, V	Coralbell, RP	Beardstongue, BRW
Tuberous begonia, WPR	Bleeding heart, P	Marsh mallow, WRP	Phlox, V
Plume poppy, W	Foxgloves, RPW	Hollyhocks, V	False dragonhead, PL
Bellflower, BWP	Globe thistle, B	Plantain lily, WL	Balloon flower, WL
Cornflower, BP	Desertcandle, WP	Candytuft, W	Polemonium, BW
Clematis, WB	Seaholly, B	Sweet pea, P	Bistort,
Cushion mums, V	Four o'clock, V	Lily, V	Buttercup, Y
Painted daisy, RP	Gaillardia, YRBr	Flax, B	Goldenglow, Y
Shasta daisy, W	Geum, R	Lupine, V	Tiger flower, Y
Tickseed, Y	Gladiolus, V	Beebalm, RPL	Viola, V
Dahlia, V	Ornamental grass	Evening Primrose, Y	
	Babysbreath, WP		

## AUGUST BLOOM

Anchusa, B	Tickseed, Y	Sunflower, Y	False dragonhead, WL
Anthemis, YW	Dahlia, V	Daylily, V	Bistort,
Asters, V	Pinks, carnation, V	Marsh mallow, WPR	Goldenglow, Y
Tuberous begonia, V	Bleeding heart, P	Plantain lily, WL	Pincushion flower, BW
Plume poppy, W	Globe thistle, B	Candytuft, W	Goldenrod, Y
Boltonia, WP	Desertcandle, WP	Blazing star, Pu	Sea lavender, L
Bellflower, BWP	Seaholly, B	Lily, V	Viola, V
Canna, RYP	Four o'clock, V	Maltese cross, RW	
Cornflower, BPW	Gaillardia, YRBr	Beardstongue, BRW	
Cushion mums, V	Gladiolus, V	Phlox, V	
Painted daisy, RP	Sneezeweed, Y		

## SEPTEMBER BLOOM

Monkshood, B	Boltonia, WP	Bleeding heart, P	WPR
Anchusa, B	Canna, RYP	Four o'clock, V	Maltese cross, RW
Anemone, P	Cornflower, BWP	Gaillardia, YRBr	Goldenglow, Y
Anthemis, YW	Plumbago, B	Gladiolus, V	Blue sage,
Butterflyweed, W	Cushion & English mums, V	Sneezeweed, Y	Pincushion flower, BW
Aster, V	Dahlia, V	Sunflower, Y	Sea lavender, L
Tuberous begonia, WPR	Delphinium, V	Daylily, V	Viola, V
		Marsh mallow,	

KEY TO COLORS: B—Blue, W—White, R—Red, Y—Yellow, L—Lavender, V—Various, P—Pink, O—Orange, Br—Brown.

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**SHADE AND PART SHADE**

Monkshood	Gas plant	Lupine	Pincushion flower
Anemone	Fox gloves	Beebalm	Sea lavender
Columbine	Geum	Chiming bells	Tiger flower
Baptisia	Daylilies	Forget-me-not	Globe flower
Tuberous begonia	Plantain lily	Peony	Tuberose
Bellflower	Iris	Polemonium	Garden heliotrope
Lily-of-valley	Lilies	English primrose	Viola
Bleeding heart			

**HEIGHT OVER 36"**

Anchusa	Gas plant	Daylilies	Goldenglow
Asters, fall	Fox glove	Hollyhocks	Blue sage
Plume poppy	Desertcandle	Perennial sweet pea	
Dahlias	Ornamental grasses	Blazing star	

**HEIGHT 12 TO 36"**

Yarrow	Chrysanthemums	Gaillardia	Lupine
Anemone	Painted daisy	Geum	Maltese cross
Anthemis	Shasta daisy	Gladiolus	Beebalm
Columbine	Tickseed, coreopsis	Babysbreath	Chiming bells
Baptisia	Dahlia	Sneezeweed	Evening primrose
Tuberous begonia	Delphinium	Daylilies	Oriental poppy
Bellflower	Bleeding heart	Plantain lily	Iceland poppy
Canna	Globe thistle	Iris	Peony
Cornflower	Seaholly	Lilies	Beardstongue
Clematis	Four o'clock	Phlox	Buttercup

**HEIGHT UNDER 12"**

Anchusa	Lily-of-the-valley	Coralbell	Tigerflower
Bishop's weed	Pinks, carnations	Iris	Viola
Butterflyweed	Ornamental grass	English primrose	Tuberose
Plumbago			

**THE NEW ROSES ARE GOOD**

By CLAIR ROBINSON

I HAD the opportunity to work with and observe some of the new roses last summer, from planting time until frost. These roses were grown for the Denver Rose Society in the Botanical Gardens at City Park. I am writing this with the thought in mind of helping anyone who might want to add some new roses to their garden this spring. Please bear in mind these findings are entirely my own and do not reflect the opinion of the Rose Society or any rose experts.

In my opinion we have need for good non-fading yellow hybrid teas. Golden Masterpiece and Golden Scepter are just this. Golden Masterpiece, a new comer, started growth

with a bounce and when the leaves opened they were large, smooth and glossy; in fact, they just glistened in the sunlight. The bush grows perpendicular with each branch in place and makes good landscaping material, even without flowers. It started to bloom in June and was never out of bloom until killing frost. The flowers are a rich golden yellow and retained this color for days, until the petals fell. The open bloom seemed to increase in size to a well formed, six inch flower and there was evidence of almost no aphids or mildew. I think this rose, planted eighteen inches apart, would make a striking show used as a bedding rose. Imagine a

bed or row planted with this rose, with its smooth glistening foliage, and loaded with bright yellow blooms all summer—pretty smooth!

Tiffany—the name reminds one of a rare gem—has the delicate coloring of soft pink and gold and can be compared to the same color tones of an opal. Tiffany was a constant bloomer, with nice habit of growth, good resistant foliage and gave you those long pointed buds and enough petals to hold the open flower in good shape for days. It is good enough for any garden.

Blanche Mallerin is not too new, but has not been planted a great deal. This is a pure white rose and when fully opened shows gold stamens. It makes a good color combination. Don't discount this good rose because it does open up quickly but remember how hard it is to find a white rose that will open without balling. We had almost no balling in this rose. A good continuous bloomer, nice pointed bud and above average ability to resist aphids and mildew.

For a healthy robust plant with good resistant foliage and the desire to bloom and keep on blooming through the heat of summer with a solid non-fading red flower, we found Chrysler Imperial did the best job of all the reds. As one crop of flowers were going out a new crop of buds were forming, keeping the plants loaded with bright red flowers all season.

I have seen the Charles Mallerin when it was everything one could ask for in a red rose, but our bed of twenty plants grew well except that they grew spindly with no foliage at the base of the plant and the buds turned black before opening. The open flower would be no good. Soil in this bed, location, and care were the same as all other beds. Talking

with other growers, I learned that this rose should be protected from the hot afternoon sun and protected from wind also. This is a beautiful velvety red and is worth the extra care it should have.

Grandifloras, the new classification, brought out some worth while varieties; Roundelay, Queen Elizabeth, Dean Collins and Carrousel, Roundelay, a dark red, reminds one of a small Crimson Glory. Queen Elizabeth has good glossy foliage, well formed pink buds opening to nice blooms of phlox pink. Dean Collins is a different shade of pink and nice bronze-red with green foliage. It is a good grower and bloomer and seems to resist aphids and mildew. Carrousel a very dark red, did burn during the summer heat, but it had lots of blooms and was a healthy bush.

In the floribunda class, Jiminy Crickets turned in a good performance through the season. The buds are a different shade of orange copper turning to pink as the flower opens. It grows to three feet with good foliage and plenty of flowers. Red Cap, a good non-fading red, is never out of bloom and the flower holds up better than average. The first flower is still good when the entire cluster has finished blooming. Siren bloomed with a brilliant shade of crimson, but not enough flowers.

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# RECOMMENDED VEGETABLE VARIETIES FOR COLORADO

By ELMER HARTNER

**T**O start this article, there are a few facts that should be brought out, and an important one is that there is plenty of humbug in the sale of vegetable and flower seed. Where are more exaggerated claims made than in a seed catalog? Fifty per cent of the amateur gardeners are extremely enthusiastic and gullible, and always looking for a miracle. Each year many new names appear in the vegetable list. A very few are new, but many of them are just old varieties re-introduced with new names, and at least double the price. There is hardly a variety of vegetable that is not being offered throughout the United States under less than three and up to twenty different names for

the same identical thing, and many of the new introductions, even some of the All America Selections, have, after a few years, proven just another ordinary vegetable.

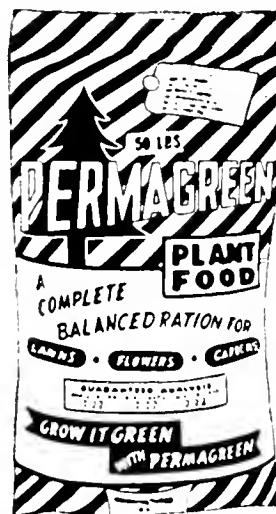
Certain varieties and strains of vegetables may do remarkably well in other areas, but our soil and climatic conditions are quite different, and varieties that have proven adapted to this area should be used.

Then, another important factor to consider is, are these vegetables to be grown by the back yard gardener who wants quality for his own use, or are they to be grown by the market gardener to be sold where appearance and large yields are a greater factor than edible quality?

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Contender .....	*		Little Marvel Early..	*	*
Wade .....	*	*	Dwarf Telephone		
Tendergreen .....		*	Late .....	*	
<b>GREEN POLE BEANS</b>			Thomas Laxton .....		*
Kentucky Wonder ..	*	*	<b>PARSNIPS</b>		
Blue Lake .....	*		Hollow Crown .....	*	*
<b>WAX BEANS</b>			<b>PARSLEY</b>		
Brittle Wax .....	*	*	Triple Curled .....	*	*
Top Notch Golden			<b>PEPPER</b>		
Wax .....	*		California Wonder		
<b>LIMA BEANS</b>			(Sweet) .....	*	*
Early Thorogreen ....	*	*	Anaheim (Medium		
Fordhook 242 .....	*	*	Sweet) .....	*	*
<b>BEETS</b>			Long Cayenne (hot)	*	*
Detroit Dark Red....	*	*	<b>PICKLES</b>		
<b>BROCCOLI</b>			National Pickling ....	*	*
Early Green			<b>PUMPKINS</b>		
Mountain .....	*	*	Cheyenne Bush .....	*	
<b>CABBAGE</b>			Small Sugar .....	*	*
Golden Acre Early..	*	*	Connecticut Field ....		*
Globe Late .....	*	*	<b>RADISHES</b>		
Hollander .....		*	Cherry Bell .....	*	*
<b>MUSKMELONS AND</b>			Icicle (Long) .....	*	*
<b>CANTALOUPE</b>			<b>RUTABAGAS</b>		
Hearts of Gold.....	*		Laurentian .....	*	*
Hales Best .....	*	*	<b>SPINACH</b>		
New Yorker .....		*	Bloomsdale (Early		
<b>CARROTS</b>			Crop) .....	*	*
Nantes-coreless .....	*		American Summer		
Small Sweet French	*		Crop .....	*	*
Imperator .....		*	<b>SUMMER SQUASH</b>		
Gold Spike .....		*	Zucchini .....	*	*
<b>SWEET CORN</b>			Yellow Straight-		
Extra Early Golden			neck .....	*	*
Bantam .....	*		Early White Bush....	*	*
Golden Cross			<b>WINTER SQUASH</b>		
Bantam Hybrid ..	*	*	Table Queen .....	*	*
Iochief Hybrid .....	*		Banana .....	*	
Early Golden			Hubbard .....	*	*
Rocket .....		*	<b>TOMATOES</b>		
Colorado Gold .....		*	Early F-1 Hybrid....	*	
<b>CUCUMBER</b>			Marglobe .....	*	
Marketer .....	*	*	Pearson Improved ..	*	*
<b>LETTUCE, HEAD</b>			Early Chalk .....		*
Premier Great Lakes	*	*	Rutgers .....		*
Bibb .....	*		<b>TURNIPS</b>		
Improved Great			Purple Top White		
Lakes .....		*	Globe .....	*	*
<b>LETTUCE, LEAF</b>			<b>TURNIP GREENS</b>		
Grand Rapids .....	*	*	Shogoin .....	*	*
Salad Bowl .....	*	*	<b>WATERMELON</b>		
<b>MUSTARD</b>			Dixie Queen .....	*	
Long Standing			New Hampshire		
Southern Curled ..	*	*	Midget .....	*	
<b>ONIONS</b>			Wilson Sweet .....	*	
Sweet Spanish .....	*	*	Early Kansas .....		*
Mountain Danver			Klondike Striped 11		*
(For keeping) ....	*	*	King and Queen.....		*

## MILTON J. KEEGAN

NOT only this Association, but all western horticulture suffered a great loss when Milton J. Keegan was suddenly stricken last July 31. One of Colorado's leading lawyers—he had been President of both the Denver Bar Association and the Colorado Bar Association—Milton found in horticulture a relaxation, a hobby, a field of service and an inspiration. A Kansas native, he was educated at the University of Nebraska where his high scholastic achievements won him the coveted Phi Beta Kappa Key. His legal education was at the University of Michigan. In 1917 and 1918 he served in the United States Cavalry and Field Artillery, and in 1920 came to Denver to live, where he married Ethel James.



Milton had a gift of writing. From school friends (not from himself) it was learned that he had publications accepted by important magazines while still an undergraduate. Later,

numerous legal articles by him were published in the American Bar Association Journal and various Law Reviews. In 1944, when both this Association and its Magazine "The Green Thumb" were struggling for very existence, a special issue by Milton, "Lilacs for Colorado," gave "The Green Thumb" and this Association national recognition. This was the first issue to be illustrated with color plates. In following lilac seasons Milton gave talks to many garden clubs, illustrated with samples of blooms from his lilac collection. Numerous new varieties were imported by him directly from the LeMoine Nurseries in France.

Recognition of his authoritative knowledge in ornamental horticulture caused his appointment to the Advisory Board of the Denver Parks, and his selection, in 1947, to write the Chapter on the Rocky Mountain States in the *Woman's Home Companion Garden Book*.

By 1949 his collection of lilacs was famous throughout this area and that year he gave forty-two varieties and seventy-six bushes to Denver's City Park, to stimulate interest in a Botanical Garden. In 1950 the municipal collection was brought up-to-date with many new and additional varieties, and in the spring of 1954 the entire collection was transplanted to the Arboretum area to form a path winding northwesterly from the Museum, known as "Lilac Lane." The Keegan Lilac Collection forms not only the first substantial unit in the Denver Botanical Garden, but is, unquestionably, one of the most important.

Milton's fine administrative talents, his constant willingness to give of his time and himself, his warm friendli-



ness and gentle humor that time and again put on an easy basis, meetings and discussions at Horticulture House that could have become tense, made him not only one of the Association's most helpful officers, but one of its best loved members.

ROBERT E. MORE

## WATERING

How a person goes about watering his garden, trees, shrubs and lawn is a good indication of the knowledge he has of a growing plant's requirements. A person with a green thumb does not keep plants saturated, nor does he permit drought to wither the foliage. The correct method falls in between these two extremes. Most roots are benefited by the entrance of oxygen into the soil by withholding water for a week or ten days, then giving a thorough soaking. There are exceptions to this rule. Some vegetation will not tolerate a dry period. Some trees will do better on a longer interval between waterings, especially Birch, Cherry, Linden and Oak. But keep in mind, you are not watering the roots of a large tree, by sprinkling for ten minutes. It may require 4 hours or more to soak down 2 or 3 feet.

We repeat; Overwatering is caused by the frequency not the quantity of water. Until you know from experience, you should dig down occasionally near the roots (but not touching) to ascertain the moisture content of the soil. When you find the soil too dry to form a ball, when squeezed in the hand, it needs water, if it makes a moist ball, hold off on the watering. The surface soil should be cultivated to conserve moisture, or better still have a surface mulch of grass clippings or other organic material. Do not worry about the dryness of the top inch or so of ground.

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## THE JUNIOR PAGE

LEWIS HAMMER

O.K. Kids We're In! Now that we have a page in the GREEN THUMB let's make the most of it. This will be your page so to make sure you get what you want, write me a note with your ideas.

As the plans go now we will have some information each month on one or more of the following topics: How you can help in planting the home grounds; Indoor projects for junior gardeners; Outdoor projects for junior gardeners; Wonders of nature; Highlights of junior organizations such as Boy Scout Conservation activities and Junior Audubon clubs.

To insure that our young gardeners get off to a good start I think it is well that a word be passed on to their adult companions.

First the planting of a small, simple garden needs the knowledge and the technical ability required by a large garden. Second, to help children appreciate and take an inward interest in their garden it will be best if they are given one ready-made and growing well. Taking care of a ready-made garden would seem much better to begin with; it will be more interesting and inspiring as well as the needs being immediately seen and the results quickly recognized. It is

most stimulating for youngsters to work with something that is growing—to flounder in a mass of mistakes, the first season may well snuff out any spark of interest which may have been kindled. Transplanting and dividing of existing plants will come soon enough to give the practical experience needed and desired by the young gardener.

Before caring for a garden these youngsters must learn to use their garden tools. It is useless to write this information as a little experience is worth volumes of description. Digging, hoeing and raking can be practiced in vacant area of the garden and a few hours of this will develop the techniques and muscles needed to make gardening less of a chore.

Working with indoor plants will help develop that experienced "green thumb". A sure way to prove to yourself that you can make things grow is to keep a plump sweet potato moist in a shallow container.

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## FALL OR WINTER CARE OF TREES

Due to the arid and peculiar climate that exists throughout the Plains Area, it is of vital importance that trees, shrubs and evergreens be given special attention before going into Winter. In September the need for heavy watering is lessened. We should ripen up woody plants by withholding water at that time, after leaf fall they will need a good soaking.

In this region we usually have long dry Falls after the trees have defoliated, and as a rule the tendency is to forget to water the various items in our landscaping. This is of great importance where we have had little, if any, fall moisture from the skies. Consequently not only the trees and shrubs, but even the perennials are almost sure to suffer, and freeze or

be Winter-killed entirely, if added moisture is not supplied to get them properly soaked for withstanding the rigors of Winter — and thus avoid what is known as “dry-freezing” or “winter-kill.”

Some thirty days or more after you have put away your hose for the season, is about the right time to bring it out and thoroughly soak everything up again. Remove the nozzle from the hose, using the open end, and on normal sized trees and evergreens allow a stream of water about pencil size, to run at or near the base of the tree for two or three hours. On larger trees this should be repeated by moving the hose from time to time to a new location on the opposite side of the tree; shrubs and perennials of course, treated in the same manner, but with smaller running time—possibly an hour or less, according to size of the plant or shrub.

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## QUESTIONS AND ANSWERS FOR FEBRUARY-MARCH 1954

GEORGE W. KELLY

Q. When can trees be transplanted?

A. Any time that they are out of leaf and the ground is not frozen. This is usually a period of about three months in spring, during March, April and May; and a couple of months in fall, during October and November. Where plants are in cans or with balls of earth they may be moved at other times.

Q. Will it hurt my lawn to water it now, when it is liable to freeze up?

A. Plants should have their roots in soil which is always moist. If they were soaked thoroughly last fall and the soil is reasonably good, they may not need water now, but if the soil is sandy or south of a building, or was not soaked deep last fall, the chances are that all kinds of plants would benefit from a good soaking. It is of no use to pour on water when the ground is frozen because it cannot soak in, but there is no harm from freezing after watering, in fact, the greatest damage is done when things freeze up dry. One explanation should be made. When watering at this time of year it is especially important to water **THOROUGHLY** and then leave it go until another thorough watering is needed. Watering frequently and shallowly at this time of year can encourage plants to develop shallow roots which cannot survive the hot days in August. It is a good habit to acquire to dig into the soil around your plants occasionally and see what the moisture condition is down deep. Do not judge the need for watering from the appearance of the surface.

Q. My maple trees look as though

they were coming into bloom. What can I do to stop them?

A. It is natural for maple trees to have swollen buds at this time of year. Ordinarily they will stay dormant until safe weather arrives, but sometimes they are fooled with our early "spring" weather in February. There is nothing that anyone can do about it anyhow. The fact that the soil is wet or dry around the roots makes little difference to the buds that are waiting to open; the temperature of the soil usually governs that.

Q. Should I fertilize my lawn now, and if so what kind of fertilizer shall I use?

A. In general it is most effective to fertilize lawns during the time that they are growing most vigorously, which might be from May through August. If an organic fertilizer is used this will be slower to release its chemical plant foods and the time of applying can be extended somewhat, but the quickly available commercial fertilizers will often have their most valuable ingredient, Nitrogen, leached out and lost if put on too long before or after the period of active plant growth.

If you have a new lawn or an old one which is thin and the soil is showing through sometimes a fertilizer like manure or peat and sheep will give a good mulch as well as some plant food, but if you already have a fairly dense lawn you will get much more food value for your money by using some form of available nitrogen such as ammonium sulphate. Of the other two elements found in all "complete" fertilizers, the phosphorus cannot leach into the soil but very little

when applied on the surface and generally the potash is not needed in our area, so money spent for complete fertilizers is often wasted.

Q. I am from southern Texas. How can I learn the right kind of plants to use in landscaping my new home here?

A. The principles of landscape design may vary but little in any part of the world, but the plants used to carry out the effects wanted do vary with each climate. Many plants commonly used in the older parts of our country, will not grow well here, so we must consult local landscape architects, gardeners and nurserymen to find out what plants can be used for each situation. Your local County Agent, the state Agricultural college, your city forester or the experts at Horticulture House are available to help you. Do not be misled by out-of-town salesman or catalogs that do not know our climatic conditions or the plants that will grow in our various soils and locations.

Q. The snow split some branches of my Pfitzer Junipers. What can I do about it?

A. If extensive damage is done it is wise to call in a qualified tree expert to advise you and possibly do the repair work necessary. If the breaks have left little undamaged bark it is best practice to cut the damaged limb completely off, making the cut as close as possible to a side limb. If two stems are broken apart but the bark is intact on each side, often the two stems can be brought together and tied in place until they heal over. Any places that have been tied together should be watched every few months and the "bandage" removed or replaced so that it does not cut into the stem and kill it as new growth enlarges the stem. Larger stems may be safely fastened together by two small screw-

eyes and a short section of rustless wire. If stems are severely weakened, they should be cut back a little to avoid further breakage by wind or snow.

Q. The plants that I ordered from the East last fall came a few days ago while the ground was still frozen. How should I take care of these plants until I can plant them out. Will freezing damage them if I set them out now?

A. One big advantage of buying everything possible near home is that they can be delivered and planted when the weather and soil are suitable. If you have received some plants when they cannot be planted out immediately they may often be kept for several days in good shape just by opening the tops to allow air and sun to the tops of the plants and pouring water in the package to soak up the packing material that is around their roots. Keeping in a cool place, as near to 40 degrees as possible, will also help. If the plants are large and there is a space of unfrozen soil anywhere it is best practice to "heel" them in, covering the roots and sometimes the tops with moist soil. The important thing to remember is to keep the roots moist, and out of the wind and sun until planted back in the earth.

If the plants are hardy, outdoor things they should be used to freezing.

Q. Is it worthwhile to try to start some seeds of annuals indoors now?

A. That depends on what you call "worthwhile". You will probably be able to buy better plants, and cheaper, later in the season when it is safe to plant them out, but no one should miss the thrill of seeing little seeds, that they have personally put into the soil, break through and de-



velop into sturdy plants that can be planted out in their own garden. It makes you feel like a partner of God when you start your own seed. A flat box filled with loose soil or a few pots in sunny windows will produce many plants. It is usually best to start things about 6 weeks before time to set them out in the open ground, which would be about April 15 for many tender annuals.

Q. Several of my house plants, including Coleus and Christmas Cactus, have little dabs of cottony material, especially around the joints. I cannot see them move, but they were not there a few weeks ago. Can you tell me what this is and what to do about it?

A. Your little cottony spots on your house plants are probably the little insects called "Mealy Bug." It is not always possible to discover how they got started, but once they are there they may spread rapidly and do considerable damage to the plants' growth as well as interfering with their appearance.

Washing the plants with warm, soapy water and a soft rag will often remove most of these pests. This treatment must be repeated several times, a week or so apart. Any escaping this treatment may be picked off with a toothpick with a little dab of cotton on it moistened in alcohol. Ordinary sprays for garden and house plants will seldom control them because of their wooly covering.

---

*Book Review by M. Walter Pesman*

## **Complete Home Landscaping and Garden Guides**

By RAYMOND P. KORBOBO

Wm. H. Wise Co., New York, 1954

You can learn a lot by just looking at pictures. The author of this book

knows this: he advises the reader to examine all the illustrations and read their captions all in one setting.

In doing just that, I became "sold" on the book. Here was not just another garden outline with all the stereotyped advice, but a useful guide fitting the average home ground. It is evidently the outgrowth of practical landscaping, in simple language but on sound principles.

The home-owner is shown how a plan develops, from taking his measurements, laying out the main areas, to the final working out of planting details. Foundation planting, specimen trees, sequence, framing, and balance become meaningful realities instead of just theoretical principles. Line and proportions are illustrated in simple sketches. Outdoor living areas, grading, garage location—all are discussed in detail. Soil preparation and hedges, driveway widths, and insect pests, all such practical details receive careful consideration.

In other words, I gain the impression that this "Complete Home Landscaping and Garden Guide" really grew out of actual work with home owners and with students in the larger sense. All through the text simple pen drawings illustrate the meaning of each operation.

We are not surprised, of course, to find the hackneyed division into the old regions where Colorado is lumped with Minnesota and Missouri. Someday the Rocky Mountain region will be discovered as a unit. But that is a small fault as compared with the many, many excellent points. I consider it a "must-have" for the new home-owner.

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Ar. Winter Park . . .	10:00 am	10:50 am
Lv. Winter Park . . .	4:15 pm	4:15 pm
Ar. Denver . . . . .	6:15 pm	6:15 pm

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Grounds and Preservation of the  
Natural Beauties of Colorado  
*Be a Member of the Colorado Forestry and  
Horticulture Association*

Membership in the Association means this to you:

- 1. A subscription to the official bulletin, THE GREEN THUMB, which is published monthly and is written specifically for this area by experienced gardeners and conservationists.
- 2. An association with hundreds of other green-thumbed lovers of plant life in the garden, in parks, on the farm and throughout the plains and mountains.
- 3. The use of Horticulture House, rebuilt and charmingly furnished by its sponsors for the use of members for meetings, classes, lectures and displays.
- 4. The enjoyment of its library and herbarium which contains an outstanding collection of books, current magazines, plates, pictures and specimens covering every phase of plant life.
- 5. The advice and council of a trained horticulturist to help solve all your gardening problems.
- 6. An opportunity to help in an organized way to preserve the natural attractions of your state for the benefit of you and others to come.

Members in all classes are welcome, but please consider taking out as high a class as possible. Since we have no support from any governmental agency, and since each member actually costs us close to \$6.00 all who can take out sustaining or higher memberships will help greatly to enable the association to keep up its valuable work.

TREASURER, The Colorado Forestry and Horticulture Assn.  
1355 Bannock Street, Denver 4, Colorado.

Please accept my membership in your Association for one year beginning

..... I enclose \$.....for dues.

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Name .....

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Classes of Membership: Supporting, \$3.00; Sustaining, \$5.00; Contributing, \$10.00; Patron, \$25.00; Donor, \$100.00.

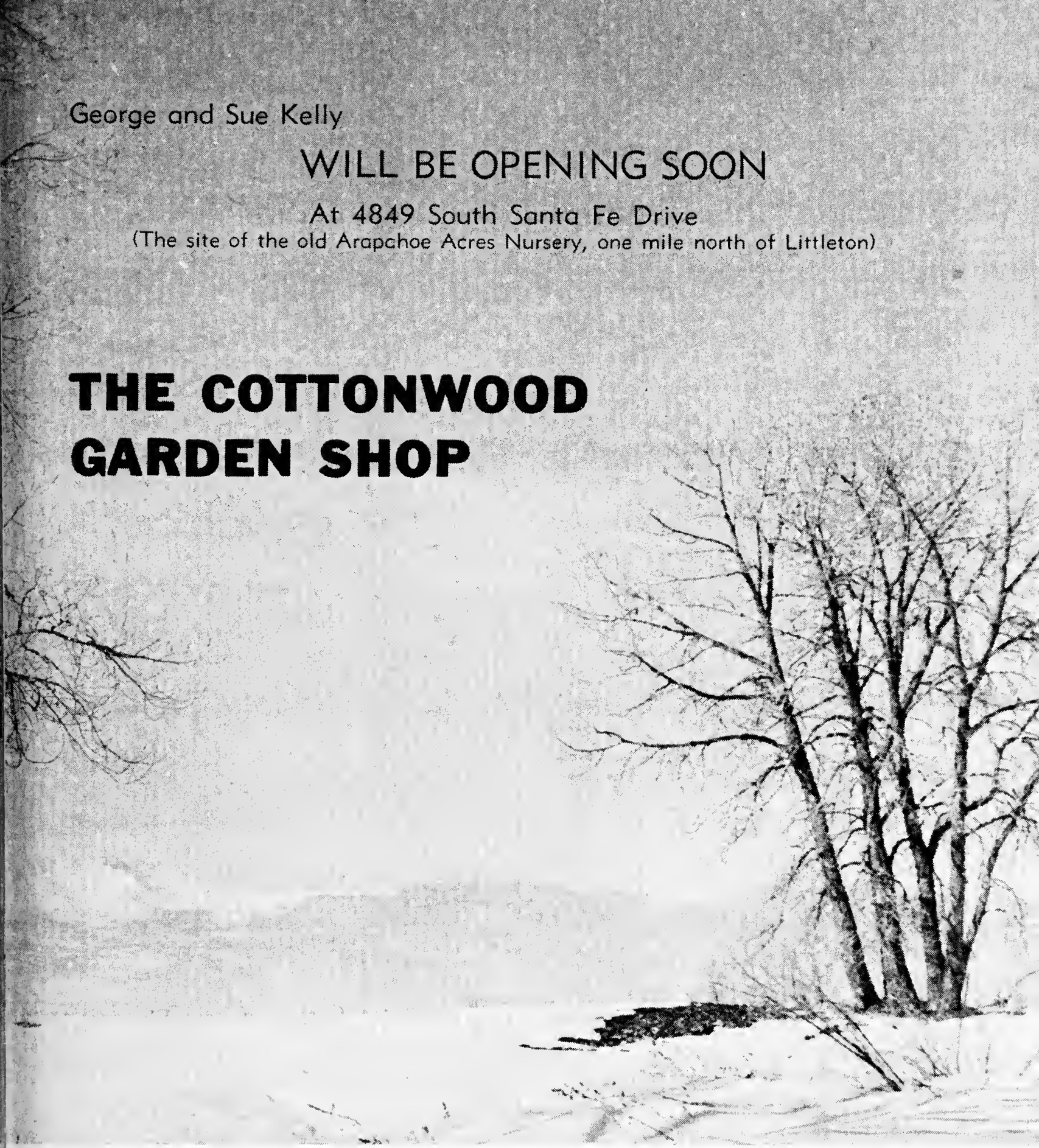
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**Native Shrubs  
Plants in Season  
Insecticides  
Fertilizers  
Garden Tools  
Seeds and Bulbs  
Accessories**



# *The Green Thumb*

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April, 1955

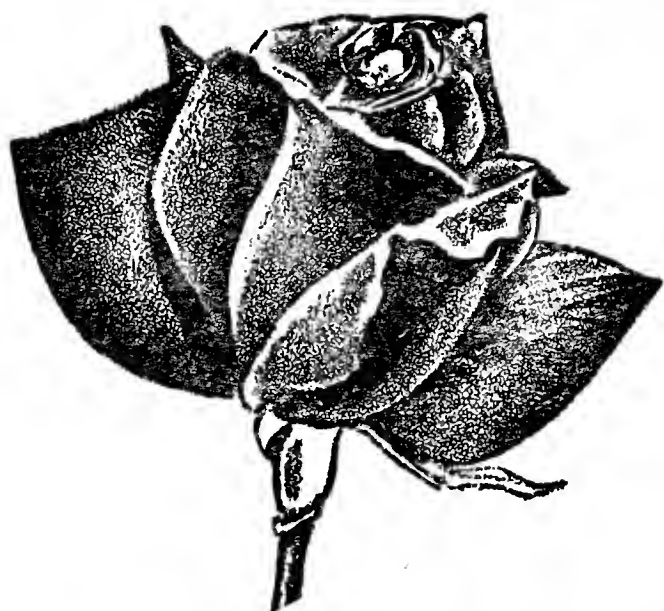
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# *The Green Thumb*

COLORADO'S GARDEN MAGAZINE



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## SEASONAL SUGGESTIONS FOR APRIL IN COLORADO

1. April is the month of Arbor Day. A tree-planting ceremony is in order for April 15, Colorado's Arbor Day.
2. Plan to finish up any planting of trees and shrubs in dormant condition before new growth starts.
3. When the days are warm and still enough for spraying, get dormant sprays, such as lime-sulfur applied. Attention to this will save time and avoid trouble later.
4. Clean out your raspberry plants, if you have not already pruned them, by removing weak canes and old, nonproductive ones. Leave the most vigorous ones and mulch the soil for best production.
5. If you placed a heavy mulch over your spring bulb beds last fall, remove the coarse leaves or straw that would tangle with the rising flower stalks. But let the fine mulch materials remain.
6. Plant the early, cold-resistant vegetables, such as peas, radishes, cabbage, carrots, etc. But don't plant beans or other warm-season kinds yet.
7. When the "spring fever" bug gets you, it will be a temptation to get out the rake and rake all of that dead stuff out of the lawn. **DON'T DO IT!** Vigorous raking of your lawn will invite the germination of weed seeds, help your lawn grass to dry out too rapidly and become weakened, and do exactly no good; so let the lawn look untidy until the rich growth of new grass comes up through the mulch, and hides this valuable material.
8. Depending upon the weather and soil needs, and upon the availability of water, you might want to give your lawn extra vigor by applying a nitrogenous fertilizer. But if the weather stays cold, or if there is not a good supply of water available, withhold the "hot" fertilizers.
9. Roots of many kinds of perennials can still be moved into the place where your plans call for them, but don't delay too long for best results this year.
10. Take an inventory of your fertilizer and spray materials that are worth saving and make a list of what you will need this summer and make the replacements when you visit your favorite garden shop. By the way, are your sprayer and duster working properly?

---

Every good gardener listens to the Green Thumb program. Every Saturday at 9 A.M. on KLZ.

**Garden information for Colorado gardeners.**

---

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# The Green Thumb

Vol. 12

APRIL, 1955

No. 3



## Colorado Forestry and Horticulture Association

Organized in 1884

"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

### OFFICERS

President.....Herbert C. Gundell  
Honorary Presidents.....Mrs. John Evans, Mr. Fred R. Johnson  
Vice-Presidents—Mrs. A. L. Barbour, Mrs. R. M. Perry, Mrs. George H. Garrey, Lemoine Bechtold, M. Walter Pesman, Earl Sinnamon, Mrs. J. J. Waring, Mrs. Frank McLister and Dr. Moras Shubert.  
Secretary-Treasurer.....Spiro L. Nickolas  
Editor.....George W. Kelly

*The editors of this magazine and the directors of this association make every effort to accept advertising and stories from reputable persons and firms only, and to allow the privilege of using Horticulture House for meetings to responsible horticultural organizations.*

*No person, firm or organization is hereby permitted to state that we, the editors and directors, endorse them because they advertise in the Green Thumb, have stories published in it or use Horticulture House for meeting or mailing purposes.*

*We request our member's comment on any apparent misuse of these privileges.*

## CALENDAR OF EVENTS

April 13—Wednesday at 2 P.M.

Here's an event I'm going to take in! Mrs. Aven Nelson is going to give a lecture and show color pictures of "Gardens across the Atlantic." Ruth spent over three months in Europe and the British Isles last year, seeing the by-ways as well as the well traveled highways! She is well qualified

to do this one—At City Park Baptist Church—17th Avenue and Forest Parkway.

This is a benefit program for a scholarship fund of the Colorado Mount Holyoke Alumnae Association.

Tickets are \$1.00 and may be purchased at the door or from Mrs. Philip W. Packer, 2665 Holly Street, Denver.

GEORGE W. KELLY.....Editor      MRS. HELEN FOWLER.....Librarian  
PAT CROOK, Asst. Editor and Librarian  
MR. AND MRS. SPIRO L. NICKOLAS, Custodians

Published Monthly. Sent free to all members of the Association. Supporting membership, \$3.00; Sustaining \$5.00; Contributing, \$10.00; Patron, \$25.00; Donor, \$100.00. Copyright, 1955 by:

## THE COLORADO FORESTRY AND HORTICULTURE ASSOCIATION

A non-profit, privately financed Association.

1355 Bannock Street

•      Denver 4, Colorado      •

TAbor 5-3410





## ARRANGEMENT OF THE MONTH

*A windy day in spring is suggested by the flower arrangement shown. Daffodils and foliage, pussy willows, and a piece of lichen covered quartz are placed in a curved elongated pottery container, surrounding the windblown figurine. Its beauty is attained not only by the uncrowded placement of material, but the freshness, perfection of form and clear color tones of all parts.*

*Substitute material suggestion—budded or flowering branches of shrubs or trees combined with tulips of graded size and color; pussy willows, gray mullein leaves and roseate of echeveria; grape hyacinth, crocus and bird figurine.*

*Mrs. H. D. Duston*

## PRESIDENT'S REPORT FOR 1954

**I**T IS now my duty and privilege to report to the membership some of the high spots in the past year's activities. What did the Association accomplish during 1954 to justify its existence. I think that is important in this day of over-organizations.

Well, first of all at the beginning of the year we adopted a set of objectives for the second decade of the Association's history. This involved some adjustment on the emphasis previously placed on various activities, in conformity to changing conditions and the financial ability of the Association. Thereafter, throughout the year there was a soul-searching analysis of our entire set up which should improve the services offered to our membership and the community at large. Too often organizations get the idea that because certain activities have been carried on for years in certain ways, they should be continued indefinitely. This report will attempt to bring out our thinking on these points.

Twelve issues of the Green Thumb—528 pages of information and pictures on gardening and allied subjects—were furnished to members in 1954. Worthy of note was the Rose edition issued in cooperation with the Denver Rose Society. It should serve as a standard for years to come. The August number on Lawns is a complete guide on that subject. The December issue has the index for the eleven year period ending December, 1954. Even though you do not keep a file of Green Thumbs, this index will make it easy to look up what has been written on gardening subjects and check the references at Horticulture House.

We now have an editorial board which will assist Editor George Kelly

in formulating policy, in assembling and passing on material to the end that the Green Thumb may be a balanced magazine, covering all phases of gardening and horticulture, and a sprinkling of conservation subjects.

You will see the first evidence of the cooperative efforts of this fine committee in the planter's guide which will be the theme of the February-March Green Thumb. Colorado nurserymen are cooperating in the preparation of material and in purchasing 5,000 or more extra copies for their customers. Incidentally, the large circulation, plus some hard work by Mrs. Vella Conrad, Mrs. Helen Fowler, Scott W. Wilmore, Don Steele and others are responsible for twelve pages of advertising in this issue. Chairman M. Walter Pesman and Vice Chairman Vella Conrad and other members of this committee are congratulated for their efforts in this evidence of the new look at Horticulture House.

In analyzing our set up, it was suggested that tax supported agencies might take over some of the Association's activities. However, at the federal level there has been a gradual contraction of civil expenditures in a budget, 82% of which is obligated to national and mutual security and related activities. This is evidenced by the reduction in research at the Cheyenne Horticulture Field Station, and by the elimination of projects carried on for years by the Forest, Park, and Soil Conservation Services. As you know the tendency in Washington is to pass some of these responsibilities on to the states.

In Colorado one finds half of its income going to the support of old age pensioners and other welfare activities, while public schools and the

higher educational institutions are starving for funds to take care of the ever increasing number of students.

At the local level the pressure for tax funds to carry on the business of a modern city is just as heavy. (Each agency is having increasing difficulty in maintenance of the projects for which it is responsible, as for example, the Park Department.)

In the final analyses a lot of these problems are coming right back to the people to work out their own salvation. And that, fellow members, is primarily the justification of the Colorado Forestry and Horticulture Association. It is an independent organization, beholden to no political party, legislature, state or government official. It gives out the best advice that its expert horticulturist can find under policies established by a board of 27 members.

I am particularly proud of this Board because of its make up, including professionals, such as landscape architects, nurserymen, seedsmen, horticulturists, arboriculturists, foresters, educators, also business men, lawyers, home gardeners—all have a deep interest in the objectives for which the Association was organized.

In addition to serving as the Association's headquarters, Horticulture House is recognized as a source of information on gardening and horticultural problems. A tally kept during November, which is a light month for gardening, showed 288 calls for information. Nearly half of these were from non-members. Horticulture House was used 102 times during the year for meetings of trustees, committees, and garden groups. A Study Class, consisting of park apprentices, who work for the Denver Parks Department, meets every Tuesday evening at Horticulture House for instruction and library study. Another public service was the assistance

given by horticulturist Kelly to the Denver Water Board and the citizens of this community during the drouth of the past year in regard to proper methods of gardening in times of limited water supplies.

The income of the Association during the year amounted to \$20,974.00, one-half of which came from memberships, one-fourth from donations, one-fifth from advertising and the remainder from benefits, etc. The expenses totaled \$19,436 of which about one-half represents the cost of publishing the Green Thumb, 40% was used for salaries and the remainder for general office expenses. Details will be given in the Green Thumb.

Under its classification by the Bureau of Internal Revenue, as an educational and scientific institution, this Association carries on a public service program of considerable value to the city and the state. However, let it be clear that if it were not for the generous contributions of our patrons and donors, the Association could not carry on the public service part of its program. Eliminate the money received from donors—nearly \$5,000—and pro-rate the total cost of carrying on its activities among a membership of 2,000, would necessitate dues of \$7.00 or \$8.00. This would defeat the very purpose for which the Association was incorporated—quote in part, "To make available correct information regarding forestry, horticulture practices and plants best suited to the climate," etc. Many persons whom the Association should reach, especially in the new housing developments, could not pay a membership fee of that amount. So I want to emphasize how grateful we are to our donors who make possible this public service to the community.

Walter Pesman's committee on Roadside Development had five field trips throughout the summer in co-

operation with the Bureau of Public Roads and the State Highway Department. Committee members offered suggestions from the layman's point of view to the highway officials.

S. R. DeBoer's committee—the Regional Parks Conservation Group—has studied a number of areas in our suburban communities and made recommendations for their development. An article in an early issue of the Green Thumb will give details of the committee's activities.

The Education Committee, Kenneth Wilmore chairman, composed of nurserymen, gardeners, horticulturists, and with representatives from many communities in greater Denver, has conducted a number of neighborhood meetings in the new housing developments, issued lists of desirable trees and shrubs and has helped several communities in sponsoring landscape contests.

The Arboretum and Botanical Areas committee—Mrs. George H. Garrey, chairman—continued its support of the Denver Botanical Garden, and support its needs, for with only 6% of the planting, contemplated in its Master Plan, completed, it is our duty and privilege to keep this worthy project before the people of Denver so that it may be understood and appreciated and carried to completion.

The Helen Fowler Library continues to grow in volumes and in value to the horticulturist, the gardener and conservationist. During 1954, 452 volumes were added making a total of about 2,250. Among new volumes added during the year were the Encyclopedia Americana and McKelvey's Lilacs, the latter dedicated to the memory of our good friend, former director and vice-president, the late Milton J. Keegan—who gave profusely of his services to this

Association and the Botanical Foundation. Other valuable books added were Plant Genera, Their Nature and Definition, Chronica Botanica, Canada and The Gardeners ABC of Plants and Diseases, and Hortus Secund by Liberty H. Bailey. A survey of the library will be made in 1955 to determine what is needed to make this library without equal in the region. We appreciate what Helen Fowler has done for this library under conditions of health that would cause most persons to drop the project.

At the suggestion of this Association a State Park Advisory Council was appointed by the State Park Board. Mrs. C. R. Enos, M. Walter Pesman and your President are members of this Council. Their effort now is centered on getting an appropriation from the Legislature to start State Park activities under the 1937 statute, which authorized the establishment of a State Park System.

Another educational project was continued in 1954, the Look and Learn Garden Tours under the leadership of Mrs. Rose Hughes and Mrs. Sue Kelly. Four tours, on which 26 gardens were visited, were instructive and profitable netting \$472.00 for the Association's work.

The annual plant auction held on April 24th, under the leadership of Earl Sinnamon, Pat Gallavan and Charlotte Barbour with a host of helpers, netted the Association \$536.47. It was lots of fun and many persons profited, with the acquisition of some fine plants, trees and shrubs for their gardens. Our thanks to the nurserymen, seedsmen and others who donated materials, and to all who helped make the auction a success.

There are many things that should be recorded—the annual picnic on September 9th and the dedication of the Botanical Garden; the Iris Day



on which Lemoine Bechtold gave hundreds of Iris rhizomes to new members. Our thanks to the Finance Committee whose chairman is Armin Barteldes; the Membership committee (Mrs. Robert M. Perry and Mrs. John MacKenzie chairmen), the Publicity committee (Mrs. H. M. Kingery, Chairman), to Mrs. John Evans, Chairman of the House Committee for her counsel and generous assistance in so many ways, including the redecorating of Horticulture House during the year.

Many members have given generously of their time, I wish it were possible to name all of them. And last but not least, our thanks to the staff who have worked faithfully and hard: George Kelly, horticulturist

and editor; Bertha Durfee, secretary, who transferred to the Botanical Garden Foundation on Jan. 10th to handle the secretarial recording and indexing work. Her place has been taken by Mrs. Patricia Crook, a graduate of the University of Nebraska. And then our secretary-treasurer custodian S. L. Nickolas and his efficient wife, Jean.

You have been a grand bunch to work with. My sincere appreciation for your assistance and cooperation and my best wishes to my successor. I believe in the Association. It has a function to perform and it can help to make Denver and Colorado a better and more beautiful place in which to live.

Fred R. Johnson, President.

## FINANCIAL REPORT FOR 1954

NET WORTH, as of January 1, 1954.....\$ 7,536.53

### INCOME

Memberships and Dues.....	\$9,912.25	
Advertising .....	4,021.41	
Donations .....	4,925.74	
Benefits .....	1,406.61	
Miscellaneous Income .....	708.07	20,974.08
		<hr/>
		\$28,510.61

### EXPENSES

Printing the Green Thumb.....	\$9,935.30	
Salaries .....	7,702.06	
Office, Horticulture House, and other expenses.....	1,798.80	19,436.16
		<hr/>

NET WORTH, as of December 31, 1954.....\$ 9,074.45

### Hours at Horticulture House

It is intended that someone will be at horticulture house from 8:30 a.m. until 5 p.m. to answer the phone and give out information as wanted. This is from Monday through Friday, except holidays. Please do not call at other times because it just bothers the custodians who are not expected to answer your questions.

### Library Donors

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Mr. John Swingle  
Mrs. Frank McLister  
Mr. Ernest Sheffler  
Mrs. Byron E. Cohn  
Mrs. John Swingle  
Mr. Frank McLister  
Mr. Don Steele  
Mr. Byron E. Cohn



## HOW ARE WE SUPPORTED?

One-fourth of Our Budget Is Given by Our Donors and Patrons.

The Colorado Forestry & Horticulture Association takes the opportunity to include in this issue, which also contains our annual report for 1954, a message of gratitude to those individual members and to those foundations who have contributed generously to our work for the past and present year.

Patrons contribute \$25.00 annually.

Donors contribute \$50.00 and more annually.

### PATRONS

Anonymous  
 Mrs. George B. Berger  
 Mrs. Clark Blickensderfer  
 Mrs. C. S. Bluemel  
 Mrs. A. E. Carlton  
 Mrs. Henri de Compiegne  
 Mrs. Otto C. Doering  
 Mr. W. H. Ferguson  
 Mrs. R. W. Hanington  
 Home Garden Club  
 Mrs. E. H. Honnen  
 Mr. and Mrs. Fred R. Johnson  
 Mrs. Milton J. Keegan  
 Mr. Robert E. More  
 Mrs. Lewis B. Maytag (deceased  
 Aug. 1954)  
 Organic Garden Club  
 Mrs. Everett H. Parker  
 Perennial Garden Club  
 Mrs. R. H. Perry  
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 Public Service Company  
 Mr. W. E. Porter  
 Swingle Tree Surgery Co.  
 Mrs. James J. Waring

The work of the Association, as you know, is civic and educational; it includes the publication of the Green Thumb, an information service, professional talks to clubs and organizations, and many other activities. The minimum membership of \$3.00 which is held by 75% of the membership does not even cover the cost of publication and distribution of the Green Thumb.

The annual report above gives complete details of the operation of the Association for the past year. We hope that the reading of it will prove of sufficient interest and appeal to bring further generous donation to the cause of Horticulture in Colorado. Hereafter, the names of Patrons and Donors will be published in the Green Thumb when their contributions are received.

---

### BIRD BATH

"What's the matter?" asked the Captain when the park policeman came in looking glum.

"It's that Mrs. Dinwiddie, Sir, the woman who donated the bird bath to the park. She just called to say that it isn't to be used by sparrows."

## OUR NEW PRESIDENT



Herbert C. Gundell, "Herb" to most of us, is a real horticulturist. He has a green thumb and an inherent instinct that enables him to determine whose advice to take in the cases where he has not had the personal experience. He has pioneered in the job of adapting the conventional County Agricultural Agent's work to city conditions. Many citizens are learning to depend on his advice in all phases of gardening. He has a habit of cutting through red tape to accomplish the objectives that he thinks are worthwhile.

He was graduated from A.&M. college at Fort Collins in 1949 with the degree of B.S. in horticulture, but he did not stop there. He has since been continually studying to keep abreast of the many new advances in horticulture. He writes articles for the local papers which are both scientifically accurate and at the same time readable.

He did his hitch in World War II with the 87th Mountain Infantry.

Besides his many achievements, he

is a mighty friendly fellow and a good man to know. We welcome him to our presidency and will be happy to follow his leadership in promoting the objectives of the Association.



## BACK OF THE DESK AT HORTICULTURE HOUSE

Patricia Ann (Mrs. Donovan) Crook is the new face (and a rather pleasant face it is) behind the desk since the first of the year. She prefers to be called Pat. She is young, full of vigor and ideas and is interested in the work of the Association. Her interest is evidenced by the fact that she has a B.S. in Botany from the University of Nebraska. She has done graduate work in Plant Ecology and hopes to get her Masters and do forest research sometime. Maybe we can keep her interested here.

Her many jobs at Horticulture House include meeting all visitors, answering all the reasonable and unreasonable inquiries over the phone, answering correspondence, keeping the books in the library catalogued and in order, soliciting advertising and assisting the editor of the Green Thumb. This is a big job for a little girl, so if any of you folks would like to help the work along we are sure that Pat can put you to work.

## NEW COMMITTEE HEADS FOR 1955

### Arboretum & Botanical Garden

Chairman, Mrs. George Garrey; Vice Chairman, Dr. Moras Shubert; Secretary, Mrs. C. Walter Allen.

### Beautification & Education

Chairman, Pat Gallavan; Vice Chairman, Henry Gestefeld; Secretary, Lewis Hammer.

### Denver Regional and Forests Parks Committee

Chairman, S. R. DeBoer; Secretary, David Munns.

### Editorial Committee

Chairman, M. Walter Pesman; Vice Chairman, Mrs. Vella Conrad; Secretary, Dr. Helen Zeiner.

### Finance Committee

Chairman, John Swingle; Vice Chairman, Fred Johnson; Secretary, Lemoine Bechtold.

### Garden Tours Committee

Co-Chairmen, Mrs. Chester Cassel, Mrs. Robert McCurdy; Vice Chairman, Dr. A. A. Hermann; Secretary, Mrs. Wm. E. Vogt.

### Herbarium Committee

Chairman, Mrs. John Newman; Vice Chairman, Dr. Helen Zeiner; Secretary, Mrs. Calvin Fisher.

### Hospitality Committee

Chairman, Mrs. Vella Conrad; Vice Chairman, Scott Wilmore.

### House Committee

Chairman, Mrs. John Evans; Secretary, Mrs. Robert Perry.

### Library Committee

Chairman, Mrs. Helen Fowler; Vice Chairman, Mrs. Frank McLister; Secretary, Mrs. Alexander Barbour.

### Membership Committee

Chairman, R. G. Myer; Secretary, Wendell Keller.

### Plant Auction

Chairman, Ken Wilmore; Vice Chairman, George Stadler; Secretary, Dr. A. A. Hermann.

### Programs

Chairman, Dr. Shubert; Secretary, Don Steele.

### Roadside Development

Chairman, M. Walter Pesman; Vice Chairman, Fred Johnson; Secretary, Mrs. Katherine Crisp.

### State Parks & Conservation Committee

Vice Chairman, Fred Johnson; Secretary, George Kelly.

### Ways & Means Committee

Chairman, Mrs. Charles Enos.

### Publicity Committee

Chairman, Mrs. Henry McLister; Vice Chairman, James Stewart; Secretary, Harold Beier.

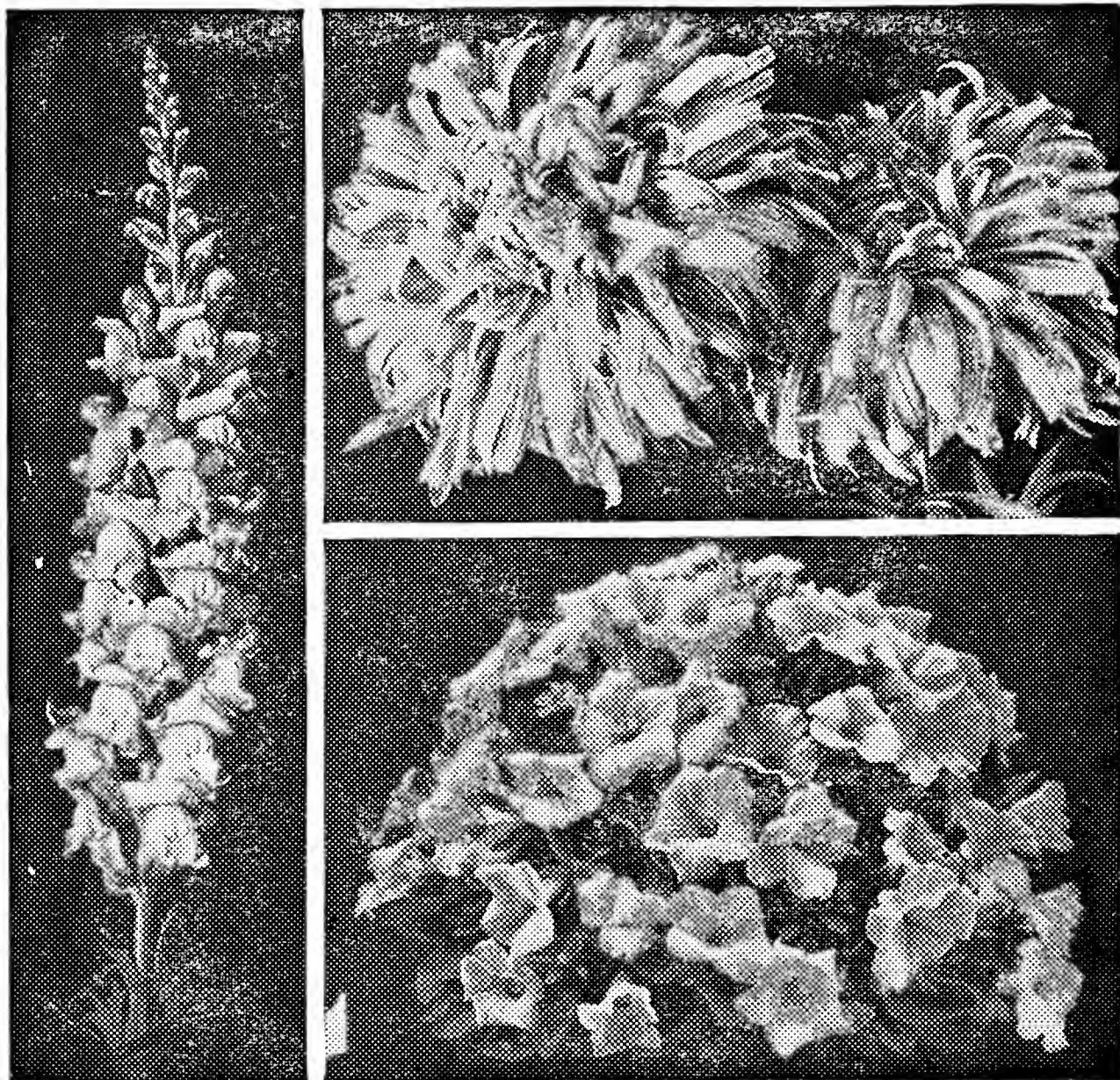
Your president has worked diligently in selecting qualified and willing helpers in filling the many committee assignments for the year 1955.

He has appointed a chairman, vice chairman and secretary for each committee. It will be the task of these three officers to suggest a qualified number of committee members, subject to a brief consultation by your Association officers, before definite appointments are to be made. The reason for this is to limit the number of committee assignments per individual to not more than three and preferably two committees. The Chairman will be requested to formulate at his first plenary committee meeting goals for 1955 and long range objectives for the next five years. The Secretary will be requested to make a brief report of each meeting in triplicate, one copy to be submitted to the Association President, one to the committee Chairman and one to be included in a permanent file at Horticulture House. This action should make it possible for incoming officers and committee chairmen to become better acquainted with committee work accomplished during the previous year. It will further make it possible for the incoming president to select from a larger number of qualified candidates for committee chairmanships.

A minimum number of committees were added for this year and some were broadened to correspond with the aims and the objectives of the Association. The cooperation and cheerful assistance of all interested members will be greatly appreciated.

Herb Gundell





*Above left, Snapdragon; above right, Asters; below, Petunias.*

## BEAUTY ON A BUDGET

By VELLA HOOD CONRAD

**P**LANT annuals—for quick, inexpensive bloom; for masses of color, and cutting. This is the answer, no doubt, for the new home owner wanting flowers, but realizing that the budget can't cover much more than the lawn, a good shade tree, an evergreen or so, and a few shrubs.

In a single short season annuals will grow from a tiny seed to magnificent bloom. If started indoors about April 15, the plants will be a nice size for planting outside right after the danger of killing frost is past. In this area that is about May 30. Outdoors many seed may be planted after the soil has warmed up,

and will be blooming in six weeks. Annuals like sun so it is best to—

Choose a spot with at least 5 or 6 hours of sun a day.

Spade and work the soil to at least a depth of 9 inches.

Add peatmoss or compost if the soil is extremely poor. Average soil will grow annuals without much additional preparation.

Water the newly spaded beds before planting.

Cover the seeds according to directions, and spread a thin mulch of peatmoss over the newly planted beds. Water very gently again.

Seeds planted outdoors will need

to be thinned and/or transplanted.

Thin, for the average plants about 8 to 12 inches apart, but again read directions on seed packet. Keep as much soil as you can on the little seedling roots in transplanting.

We usually transplant the little seedlings after they have their second pair of true leaves. You may want to use one of the starter solutions in transplanting as it gives them an added boost and reduces shock. Choose evening for transplanting if you can and shade plants from intense sun.

A few of the more popular annuals—

*Ageratum*—Blue and rose. Under ten inches. Ideal for edging.

*Asters*—Many colors. Varied heights 12 to 36 inches. Prefer sandy soil.

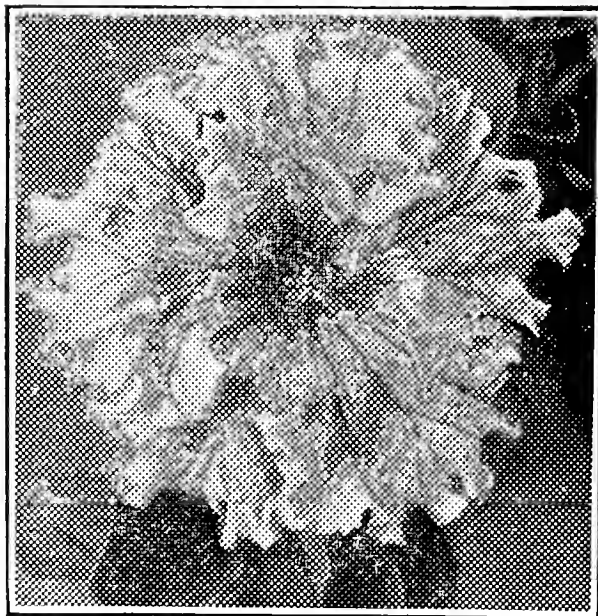
Do well in our alkaline soil. Buy wilt-resistant strain. Need water.

*Calendula*—Yellow to deep orange. Medium height. Hardy.

*Calliopsis*—Yellow-maroon. 12 to 36 inches. Hardy.

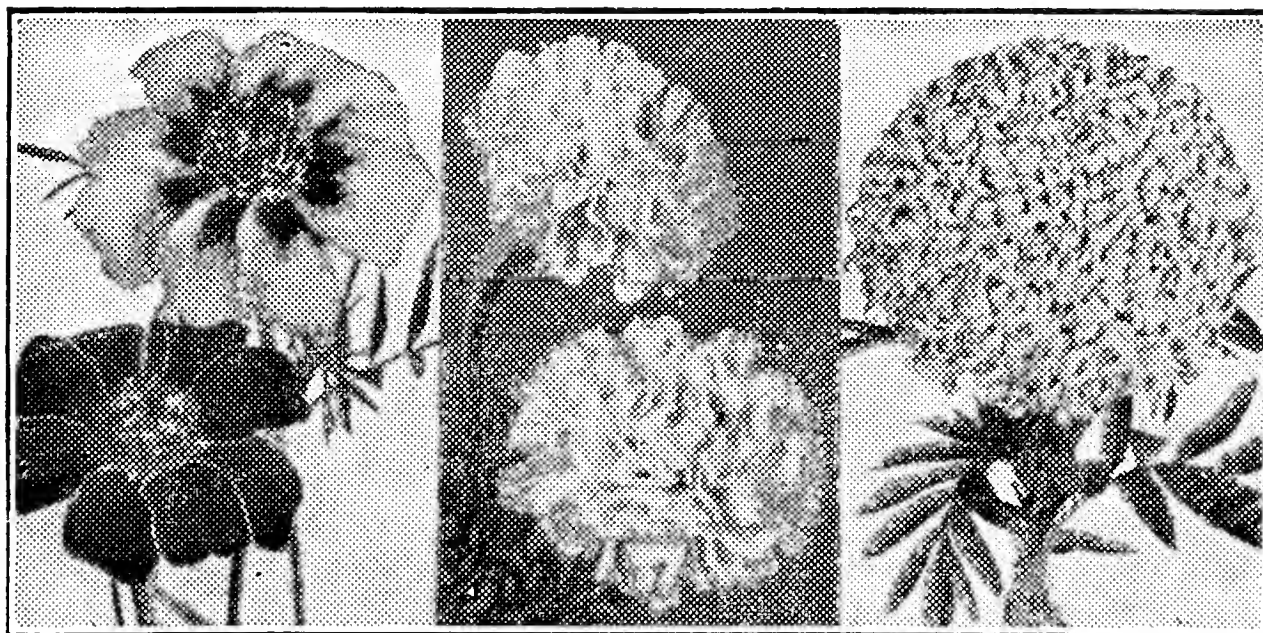
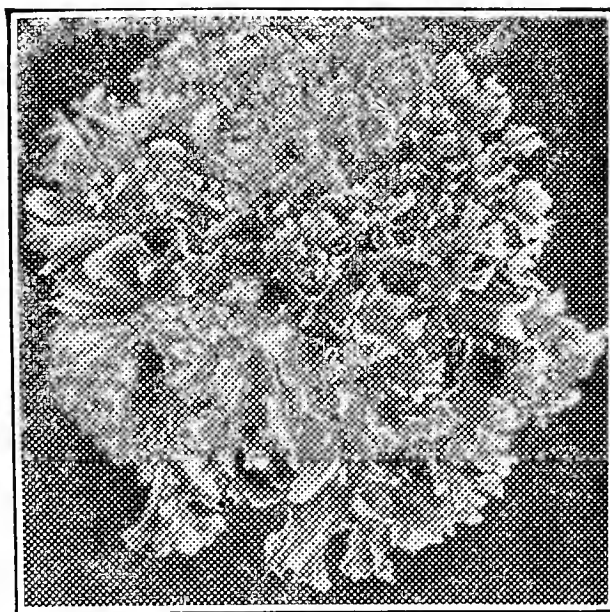
*California Poppy*—Yellow. Low, to about 10 inches. Self seeding. Hardy. Good for mass planting.

*Celosia*—See story in this issue. The new *Toreador* is beautiful with white *Petunia*—Popcorn.



*The new Petunias come in both singles*

*and doubles.*



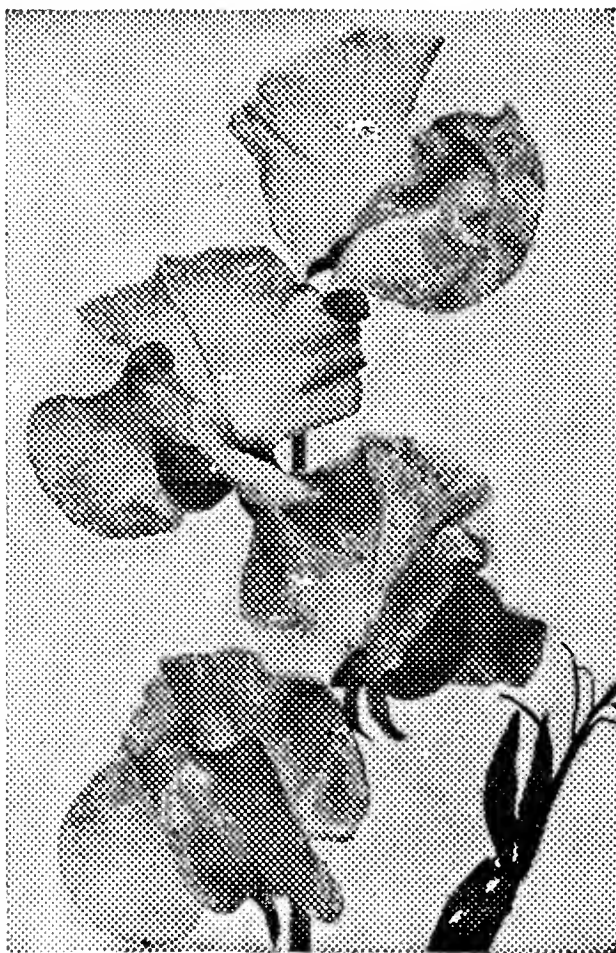
*Left to right, single Marigold, carnation flowered and chrysanthemum flowered varieties.*



Dwarf Marigolds—Singles and doubles. Gold shades. Six to 18 inches. New hybrids excellent. Hardy.

Petunias—Singles and doubles in all colors except yellow and a true blue. Dwarf types and taller varieties. The most versatile of all annuals in my opinion. Easy to start—easy to transplant. Constant bloom; and what a show.

Snapdragons—Many colors. Dwarf type—tall varieties. (See article in this issue.)

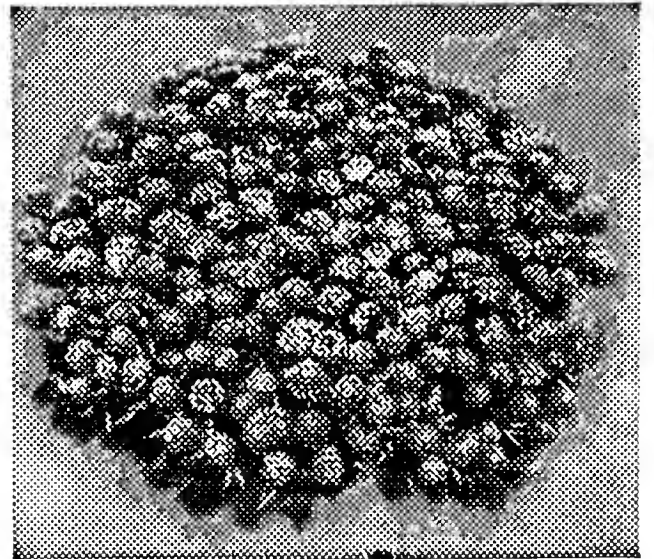


*Spring flowering Sweetpeas.*

Sweetpeas—You all know these, and the legend to plant on March 17. In this area you may still plant them in early April. They are another plant that will tolerate alkaline soil. Red spider and aphids are their worst pests.

Sweet-alyssum—White and violet. Four to 6 inches. Spreading. Fragrant. Use as an edging.

Tall Marigolds—Yellow to red-copper. To 36 inches or more. Good for background. Can be used as an annual hedge in new yards.



*Violet queen Alyssum.*

Zinnias—All-purpose flowers. Miniature types as low as 8 or 9 inches. Giants over 36 inches. Some have flowers similar to Dahlia. Rich colors. Easy to grow. Take hot weather.


Two more, I must add—One for the fragrance alone. NICOTIANA. I tuck it in corners, close by patios and lounging areas, and enjoy the fragrance after dark.

Bells of Ireland—and it is spikes of green belles—to four feet tall. Very unusual and about the nicest I know for use in arrangements.




*Fantasy Zinnias.*


## CHECK LIST FOR GERMINATION TROUBLES




**SUFFICIENT MOISTURE?**  
ABSOLUTE NECESSITY—  
UNIFORM—NOT EXCESSIVE.




**ANTS-MICE — MORE  
OFTEN RESPONSIBLE  
THAN PEOPLE GENERALLY  
REALIZE—EVEN FLORISTS!**




**CORRECT TEMPERATURE?**  
—USUALLY 65-70°—  
SOME PLANTS COOLER.



**CLEAN, DISEASE-FREE  
STERILIZED MEDIUM?**



**SEEDS COVERED TOO DEEP?**  
AIR IS AS ESSENTIAL AS HEAT  
AND MOISTURE!!! FINE SEEDS  
REQUIRE LITTLE OR NO COVER  
—WILL "WASH" INTO SOIL.



**YOUR SEEDSMAN IS ONLY  
HUMAN--DOES HIS BEST.  
IF YOU THINK HE IS AT  
FAULT, WRITE AND GIVE  
HIM A CHANCE TO HELP!**

ABOVE ALL, REMOVE SEEDLINGS TO COOL AIR AND PLENTY OF LIGHT  
AS SOON AS SPROUTED -- BEST DAMP-OFF PREVENTATIVE!

*Above drawing and story, courtesy of George J. Ball Seed Co.*

## STARTING SEEDS

**T**O have flowers we must have plants to bear them, and in the case of nearly all annuals this means starting those plants from seed. We would like to dispel the old notion concerning the difficulty of starting seeds indoors. Most of the so-called difficulties are a direct result of lack of care.

What are the ingredients that are necessary in starting seeds—and how are they used? Let's take them up one at a time. First, in order to have blooms outside before the summer is half over we must start the seeds indoors 4 to 8 weeks (depending on variety) before it is safe to plant outside, which means after danger of frost has passed. It is not wise to start seeds earlier than this unless you have a well heated small greenhouse because your window space will be too limited to hold any quantity of plants after transplanting, and your cold frame won't be warm enough until the last couple of weeks. By starting seeds at the time suggested the seedlings may be moved into your cold frame when they are

transplanted, and before they have grown tall and spindly. Light and space are therefore important points to consider before any seed is sown.

The next ingredient to consider is the kind of container and the material in which the seed is to be sown. For starting seeds in the house we prefer smaller containers such as cigar boxes or shallow clay "bulb pans" (your florist can usually supply these) rather than the large "flats" your florist uses, which are hard to handle. If you use soil to sow your seeds in, be sure that it contains a liberal quantity of sand and leaf mold or peat moss. The exact proportion will depend upon whether your soil is naturally heavy or sandy. Most sowing materials should contain about one-third each of soil, sand and leaf mold or peat moss.

After thorough mixing, the quantity needed should be sterilized (or more properly, pasteurized) to kill weed seeds and harmful organisms. Florists use steam, but you can accomplish the same purpose by heating it in a dishpan in an oven for 46 to

60 minutes at 200-250 degrees. Soil should be moist but not wet, and may be used as soon as it cools. Vermiculite also gives excellent results in seed starting. It holds moisture well and is entirely free of weed seeds and harmful organisms; but since it contains no nutrients, these must be added as soon as the plants are up. Liquid plant foods used as the manufacturer directs or dry commercial fertilizers of the balanced sort like Vigoro may be used by dissolving 1½ teaspoonsful in a gallon of water.

Another vitally important ingredient is uniform moisture. The sowing material should be placed in the container in a well moistened condition and firmed with a board. Upon this place a ¼ inch layer of the same material which has been screened. Use a board to level the material even with the top of the container but do not pack. Shallow rows are made by pressing the edge of a wood pot label or lath into the material slightly. The seed is sown thinly in these rows and no soil covering is added if seeds are the size of Snapdragon seed or smaller. If larger, barely enough to hide the seed should be used. Remember, seeds need oxygen to grow as well as moisture, and a heavy covering of soil will literally smother them. After sowing, a light misty spray with a rubber bulb "Scollay" sprinkler will settle the seeds in the soil or Vermiculite. A newspaper cover will help to prevent loss of moisture by evaporation, but be sure to examine them daily to see that they are kept uniformly moist, and be sure to remove the paper and place the container in full sunlight as soon as the seedlings are up. It's also a good idea to label each item you sow with its name and the date sown. 4 inch wooden pot labels are ideal. After seedlings are well up we like to provide moisture

by "sub-irrigation." Sounds formidable, but it's very simple. Using either a cheap cake pan or your laundry tub, the seedling containers are simply placed in water to about half their depth and allowed to remain until the surface is moist. This won't work, of course, if the containers are waterproof or have no drainage openings. This helps to control "damp-off" by keeping water off of the leaves and stems, and insures thorough watering of all the soil.

The fourth important ingredient is temperature. Most annuals will sprout more quickly in a uniform temperature of 60-65 degrees. After germination a sunny location with a night temperature of 55 degrees and a day reading of 65-70 degrees will help to avoid spindly growth. When the seedlings have been transplanted into other containers and placed in your cold frame, 45-50 degrees at night and not over 65 degrees on sunny days whenever possible will help in giving you nice stocky plants that you'll take real pride in planting outside. A cold frame may be a simple box with wooden sides, the back of which is 6 to 8 inches taller than the front so that a sash of glass or glass substitute may be placed on it in such a way that it sheds rain and keeps out some cold at night, and which can be raised or completely removed on sunny, mild days. When planting in the garden be sure that every plant is thoroughly watered as soon as possible and regularly thereafter, if rains should fail, until they are well established.

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## PANSY "FELIX"

*The First Pansy Novelty in 20 Years*

**F**ELIX is the first Pansy strain with a charming and definite new design. One look, and anyone will exclaim, "Why!—look at that Pansy, if *that* isn't the cat's whiskers!" True enough, that is what those clear pencil markings, radiating from the center of the flower remind you of, and these honey guides are nature's original designs in Pansies, to lead the Honey-bee to the nectar of the flower. All flowers have these yellow, penciled centers, but are beautifully contrasted with a broad border of either red, blue, brown, violet or other shades which make them a most attractive color blend in your garden—flowers are of the giant Swiss size and many gracefully ruffled. The plants are exceptionally strong growing and hardy, since Felix was developed and seed grown in the far north. Felix Pansies will be the first to flower in your garden if started early and grown cool, and they will be the last to leave you in the Fall, if the old flowers are picked off, plants kept watered, and grown in partial shade.

Like most of its predecessors, Felix also comes to us from Northwestern Europe. It is over a hundred years ago, that Lord Gambier, of England, brought together the native small "Johnny-Jump-up" and the clear yellow *Viola Lutea*, from which crosses spring our modern Pansies, and gave Lord Gambier the name, "The Father of the Hearts-Ease." "Hearts-Ease" was the popular name of Pansies at the time, while our name today is a corruption of the French name "Pense" which stands for "Thought." Maybe that is what was behind the creator of Felix when a flower with a "face" different than all the rest

turned up in his garden in the country of Hamlet and the "thought" to grow Pansies with greater expression and character, occurred to him. So—years of selections and crosses followed, to give us Felix of today. It was sent first to professional growers all over the States for trialing before Felix now is introduced with their recommendation. Pansies are our most popular spring flowers, the first to bring new life and cheer in our garden, the first on display on road-stands and the first packet selected in the seed racks. But—strange as it might seem—few Pansies offered today are offered by name, as are fine Petunias and Marigolds of recent years. Pansies will be offered as basket plants of "mixed colors" or seed packets of "Giant Mixed Pansies." By asking for Pansies, by name—the general quality of Pansies offered will be greatly improved—as other fine novelties will follow Felix.



## GROWING COLORADO PLANTS FROM SEEDS

By D. M. ANDREWS

THERE is undoubtedly a fascination about growing plants from seeds; according to some, there is mystery as well. But the mysteries of seed growing are due mainly to a few unknown factors, and a knowledge of these can be reduced to simple rules which contribute to one's confidence and success.

It is well to note that but few annuals are included in the Colorado flora. As one travels from sea level toward the highlands and higher mountains of the interior, the tendency is to be observed from annual groups to include more perennials and for perennial groups to include more and more shrubs and shrubby species. This is due apparently to an environment which puts a premium on those species which are able to carry on from year to year, without the hazard of making a new start each season under conditions which are often unfavorable.

But this is not all. Certain perennials will disappear from a locality, and after a number of years become plentiful again. This is usually traceable to a season of better growing conditions, when the seeds lying dormant in the soil retain their vitality and spring up after the natural rest period of winter. Just why germination occurs at this most advantageous time will be told later.

Dormancy after the time of ripening is a characteristic of the seeds of perennial plants. If kept dry over winter and planted in the spring they may fail to germinate, and the statement is apt to be made that they have lost their vitality. Although rarely true, their original period of dormancy merely continues. What they have

missed, is contact with cold, moist soil, either from planting out of doors over winter or proper stratification under similar conditions. The result of fall planting or stratification is the process known only by experiment, which has been multiplied many-fold by faithful investigators. The consensus of results shows that seeds that require after-ripening respond best to stratification lasting about 100 days at a temperature of 35 to 40 degrees Fahrenheit, just too cold for germination, which is about the temperature near the bottom of the household mechanical refrigerator.

The seeds may be put in waxed paper parcels of wet sand in January and placed in a milk bottle for slightly over 3 months storage. When removed they should be planted immediately under prime growing conditions, either outdoors or in a cool greenhouse. For greenhouse planting stratification may begin a month or two earlier. If removed from refrigeration sometime before planting and kept warm, the benefits of after-ripening may be entirely lost and this appears to be what happens under natural conditions if seeds through the winter have too little moisture, or if spring conditions are too dry for germination. Thus the seeds of many wildlings retain their vitality for years, to respond promptly when a favorable combination of conditions arises.

Fall planting is usually as advantageous as stratification if the winter is not too rainy or if a mulch of excelsior is used to prevent disturbance of the surface with the necessarily light covering over the seeds. One advantage of fall planting is that no



differentiation need be made for the seeds that germinate freely at any season. Owing to individual differences, there are some seeds which often, but perhaps not invariably, lie dormant over one entire growing season, and then germinate quite nonchalantly after some 18 months of dormancy. Several species of *Clematis* appear in this role and *Rubus deliciosus* will germinate freely the following spring if planted immediately upon ripening in mid-summer; but if allowed to become dry, another 12 months appears inevitably to be required.

One advantage of stratification is in the matter of weeds, although a proper mulch may reduce their activity to a minimum. Considerable attention is obviated by immediate outside planting if practicable, as a total loss may result with stratified seeds, if allowed to dry out or if not planted at the proper moment.

Mere freezing of seeds in flats and the use of snow as a stimulation are quite ineffective for seeds that require after-ripening. The time element cannot be obviated. *Rubus deliciosus* also represents a class not fully understood, which mainly exists with the seeds of woody plants, but which to a degree includes tall bearded *Iris* and possibly *Iris* species. It seems to demand that the process of after-ripening begin before the seed coating hardens by drying; otherwise germination may be greatly retarded or viability diminished. It is possible that some of these characteristics follow family lines or generic groups with some possible exceptions which are either intrinsic or sometimes quite unaccountable.

Commercial seed planting is often done with planting boards which will just reach across a 4-foot bed of finely prepared soil. The board which is approximately 18 inches wide, one-

half inch thick and 4 feet long, has three V-shaped strips on the underside spaced 6 inches apart, with a strap lengthwise the top to handle it by. The thickness of the strip will determine the depth of planting. I use about three boards, one with one-quarter inch V-shaped strips, one with inch strips, and one in depth midway between. Place the board for the first rows, standing upon it to press the strips into the ground. Then move the board back its exact width by means of wire stakes, then plant the three rows marked, using labels of each kind. Cover carefully with fine sifted sand. Small seeds like *Columbine* should be covered no more than one-eighth inch; *Pentstemon* about one-quarter inch and larger seeds in proportion, always avoiding too great depth. The sand covering permits the seeds to push up with little effort, and often makes the difference between success and failure. Fall planted seeds should be mulched with excelsior, which is free from weed seeds and objectionable litter, and which can be obtained usually from furniture stores in sufficient quantity. Lath frames laid directly upon the mulch will prevent it from scattering and makes sufficient winter protection. In spring watch carefully for germination, removing the mulch when the seedlings appear. The lath frames must then be supported 10 or 12 inches above the ground as long as shade is needed. Care should be exercised to avoid watering too freely, and too often, as the seedlings are at first very delicate and "damping off," a fungoid disease, is often fatal in hot, moist weather.

The same method is in order for the spring planting of seeds, such as all conifers, *columbine* and many other perennials which germinate readily at this season. It is advisable to delay spring planting until the

young seedlings will not be subjected to late frost, which is particularly detrimental to conifers soon after germination. A light mulch is very beneficial for spring-planted seeds, even when germination is expected quite promptly, and as with fall planted seeds the mulch should be removed as soon as germination is fairly completed, and before the plants show signs of stretching. Always save the mulching material to be used again until too much disintegrated.

The dates for seed planting fall virtually into three groups. The first includes comparatively few kinds which must be planted immediately upon ripening to avoid an induced dormancy, which may delay germination over one entire season. An example is *Rubus deliciosus*, already mentioned. Among garden plants are the Peony and the tall bearded Iris. The latter will give maximum germination by this method; seedlings often appear the same season without loss if the mulch is allowed to remain over them. Peonies are less certain to respond. If the seeds become hard, the seedlings seldom appear before the second spring after planting. It is known that germination of various shrubs, plum, cherry, and other Rosaceae, and the viorna species of *Clematis*, and a few perennials, is not to be expected until the second spring after planting. Just how much of this dormancy can be avoided by planting immediately upon ripening, say within a week or two, must be determined experimentally if the seeds are available, and perhaps in no case will detrimental results ensue. Included in this group also are such seeds as elm, maple, oak, chestnut and some others which lose vitality completely if allowed to become dry.

No complete list is available of the

second group of seeds which must be planted or stratified in the fall to induce after-ripening; but quite surely it includes most of the shrubs not otherwise accounted for, and many perennials, notably the pentstemons. If one excludes the seeds which are known to germinate freely at any time like annuals and those included in group one, all the rest may be designated for fall planting, usually late enough to avoid germination immediately, with possible exceptions. Seeds certainly to be included here besides shrubs are pentstemons, the exceptions are few, and several western *Delphiniums*. *Alliums* germinate quite readily but often slowly and fall planting is advised. *Aconitum* and *Anemone* are also to be included. *Callirhoe*, *Caltha*, *Clematis*, *Dicentra*, *Dodecatheon*, *Gilia*, *Gillenia*, *Lewisia*, *Liatris*, *Malvastrum*, *Mertensia*, *Oenothera*, *Phlox*, *Sidalcea*, *Spiraea*, *Synthlipsis*, *Thalictrum*, *Trillium*, *Trollius*, *Veratrum*, *Viola* (Western Species) and *Yucca*. The latter will germinate, howbeit, rather slowly at almost any season, and some of the others also here included; but fall planting is advised if equally convenient.

The third group includes a large number of individuals which germinate like annuals, quite promptly at almost any season. Notable among these are all the local conifers except *Juniperus*. They are recommended for spring planting after frost danger is past. Their germination period averages about 10 to 20 days, but sometimes less. Most of them are quite sensitive to "damping off" and extreme care in watering is necessary. The soil reaction should be very slightly acid, a corrective against such fungoid troubles. Pines require little or no shading; give all others half shade the entire first season and over winter. A mulch of excelsior is advised the first winter, dropping the

shades to the ground to protect the mulch. Recommended for spring or early summer planting are Aquilegia, Artemisia, Aster, Campanula, Dianthus, Chrysothamnus, Geranium, Heuchera, Mirabilis, Salvia, Sedum, Senecio, Silene, Solidago Veronica.

## PLANT SPECIALISTS

BY DAISY HASTINGS

From time to time this department will interview the key people in the specialist clubs to bring you news of the latest developments in each field. In this issue we list the presidents and secretaries of each, so that you may call them for further information about their groups.

### AFRICAN VIOLETS

Town & County Saintpaulian Club  
Pres., John Coryell, Route 1, Box 321,  
Arvada, HA. 4-5024  
Sec., Mrs. Jayne Knott, Thornton, AT.  
8-1427

### CACTI AND SUCCULENTS

Colorado Cactophiles  
Pres., G. J. Tomlin, 40 So. Lowell,  
WE. 5-5041  
Sec., Mrs. Wm. Rutschman, 470 Madison, FR. 7-4110  
Cor. Sec., Mrs. Conrad Eckstein, 2265  
Carr, BE. 3-6805

### GLADIOLUS

Colorado Gladiolus Society

Pres., Don Puffer, 2045 Eudora, FR.  
7-2526

Sec., Mrs. Paul Hastings, 2960 Forest,  
DE. 3-9300

### IRIS

Denver Iris Society

Pres., Everett Cline, 991 So. Colum-  
bine, PE. 3-9351

Sec., Don Weber, 1295 So. Columbine,  
RA. 2-0479

### ORCHIDS

Denver Orchid Society

Pres., Paul R. Spencer, 4600 So. Lafay-  
ette, SU. 1-1732


Sec., Mrs. Stephen Knight, Jr., 3040 E.  
Exposition, SP. 7-0082

### ROSES

Denver Rose Society

Pres., Dr. John Bouslog, 6210 E. 17th  
Ave., FR. 7-1920

Sec., Mrs. Lou W. Appledorn, 2055  
Raleigh, GL. 5-2055



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## Some of the Most Popular Annuals

### OVER 36" HIGH

<i>White</i>	<i>Yellow and Orange</i>	<i>Red and Pink</i>	<i>Blue and Lavender</i>
Cosmos Nicotiana Sweet Pea	Cosmos Sunflower	Cosmos Nicotiana Sweet Pea	Sweet Pea

### 12" TO 36" HIGH

Aster (China) Cornflower Larkspur Nigella Phlox Shirley Poppy Snapdragon Zinnia	Calendula Marigold Nasturtium Snapdragon Zinnia	Aster (China) Cornflower 4 o'clock Larkspur Phlox Salpiglossis Shirley Poppy Snapdragon Zinnia	Aster (China) Cornflower 4 o'clock Larkspur Nigella Salpiglossis Zinnia
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### UNDER 12" HIGH

Alyssum Begonia Candytuft Geranium Pansy Petunia Verbena	Pansy	Begonia Geranium Pansy Petunia Verbena	Alyssum Lobelia Calendula Pansy Verbena
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## "What To Do in Gardening in 1955"

The title of a non-credit course to be offered by the University of Denver Community College during April and May. The course is to begin on April 5 and meet from eight to ten o'clock on Tuesday evenings for eight weeks. The instructor, Dr. Moras L.

Shubert, will discuss such timely topics as water conservation techniques, soil fertilizers, pest control, pruning, etc. This course will be of particular interest to the new home owner, and beginning gardener. The fee will be ten dollars. Registration information can be obtained by phoning ALpine 5-3441, extension 681.

## PLANTS THAT PLEASE

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## NEW ANNUALS FOR 1955

By FRED VETTING

**T**HE two annuals, winners of the Bronze Medal, being introduced this year are: Toreador Celosia and Prima Donna Petunia.

Toreador Celosia is a richer and brighter red than the earlier crimson Cockscombs. It is a lustrous, bright red with scarlet highlights and bright green foliage. The large combs grow up to 12 inches across and the plants reach 18 inches in height. It has a long blooming season for garden display and cutting, and the flowers may be dried for winter floral arrangements.

Prima Donna, one of the F<sub>1</sub> hybrid grandiflora petunias, is a bright rose-pink. The flowers are large and well, but not deeply, fringed.

There are some new members of the "Redskin" Petunia tribe. Joining the already familiar Comanche are—Apache, a bright rose-red; Sioux, a warm salmon; and Paleface, a white.

Other new annuals are: Sun Bright, a dwarf marigold, a very early golden yellow. Parisian Hybrid, a dwarf Marigold, blotched or striped. Kon Tiki, an African Marigold, a very early golden yellow carnation-type. Glamour Girl Zinnia, which has large informal fluffy flowers and comes in soft colors.

For the gardener who likes something different, the new Sweet Pea, Little Sweetheart, might be of interest. The plants form a rounded bush eight inches high with the large spencer type flowers in mixed colors.

Two outstanding annuals, while not new varieties, that will give much pleasure are, the tall feathery Cockscomb, Pampas Plume, and the all green, Bells of Ireland.

The above are just a few of the many introductions for 1955, and the use of any of them along with the old favorites will make an interesting and enjoyable garden.

### TREE TRIMMING & SPRAYING

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*Petunias combine well with Celosia in a border.*

## THE "NEW LOOK" IN CELOSIA

*"Fashion Flower for '55"*

Most interesting of this year's All-America Selections Bronze Medal winning flowers is the new Cristata Celosia (Cockscomb), **TOREADOR**. Introduced by Geo. J. Ball, Inc., Toreador received top point scoring among the 25 expert All-America judges. These 25 judges based their decision on comparative trials in 20 geographically representative locations throughout the U. S. A.—a thorough test!

Taking its bright red color from the Greek translation of the name "Celosia" (burning), Toreador sets a new standard of beauty and quality for this old favorite garden flower. Red Cockscombs are commonly thought of as purplish or magenta or wine-red—a shade of red lacking in life and brilliance of the more scarlet reds usually sought after in the floral kingdom. Toreador is a clear "break",

as the geneticists say, in Celosia color—a really live, bright shade of red, containing little of the purple or magenta cast which destroys the effectiveness of so many flower colors. This is most apparent under artificial light, where Toreador retains its lovely shade.

The Celosia is an extremely versatile plant, as those gardeners who are familiar with its 19th Century popularity will attest. Toreador commonly attains a height of 18 to 20 inches, with one large bloom, although a small percentage of the plants will branch freely. The Cockscomb bloom is apt to attain the size of 6 to 12 inches across, featuring a striking array of gracefully curved and turned petals which are really extensions of the characteristic "fasciation" of Cristata Celosia stems. This stem fasciation (actually an uncontrolled lateral

growth of the stem, giving it a flat look) extended into the bloom is what causes the huge, striking head of Toreador. In branching types of Cristata Celosia, the fasciation is not so pronounced—the head is not so large.

Observant gardeners will note the stem color of Toreador—it has a pale salmon-rose cast—in marked contrast to the stem color of most red Celosias, which is purplish. This stem color, like bulb color in Hyacinths and seed color in Stocks, is closely linked with the flower color—a useful tool for plant breeders.

The light green foliage of Toreador is another mark of distinction from other red Cristatas, the foliage of which is usually a darker shade of green.

### Culture Easy

The culture of Toreador Celosia closely resembles that of Zinnias. Celosias love heat and are tolerant of dry soils and dry climates. Another decided advantage of this subject is its tolerance of poor soil. Toreador should do well when seeded directly into the garden soil as soon as the soil has begun to warm up—about the frost-free date, say mid-May in the Chicago latitude. In the far north it will likely have to be started indoors, as a full 12 weeks are necessary to bring the blooms into full maturity. Celosias transplant well, providing the seedlings are handled properly and sufficient care is taken not to break the taproot.

### A Plant of Many Uses

Uses of toreador? You can do just about anything with it! Bill Kistler, director of the leading AMERICAN SCHOOL OF FLORAL DESIGN, has used it quite successfully in different floral design work—centerpieces, corsages, bouquets. This sug-

gests many possibilities for gardeners who like to cut their plants for indoor enjoyment. Cristata Celosia dries well, and can be combined with other everlastings for winter arrangements.

Recommended spacing for this new garden plant is 12 inches for maximum sized blooms. The flower size can be cut down for cut flower use by closer spacing which gives the heads less room to develop.

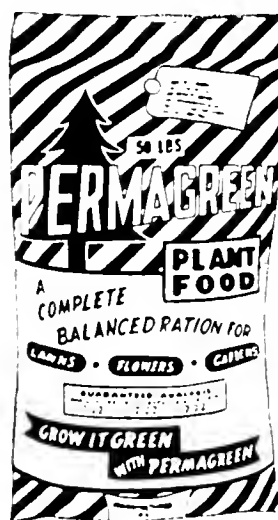
For background planting in the yard where not too much height is required, Celosia toreador is unexcelled. As a mass-planted subject, spaced about 12 inches each way in beds, it creates a terrific display of color—prime from late August till frost.

Get reacquainted in your garden with this versatile subject, Celosia—through its most modern and beautiful varietal color and form, Toreador, "Fashion Flower for '55".

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## COLOR HARMONY WITH FLOWERS

By M. WALTER PESMAN

**G**REEN stands for safety; even in the garden you can't go wrong very far in color combinations as long as there is plenty of green foliage. That is one reason why you find fewer color clashes outdoors than indoors.

People may make mistakes in putting the wrong colors together—and here comes Mother Nature and “fixes it all up again,” just by adding her favorite color, green.

Does that mean you can get away with any kind of flower combination in the flower border, or that, on the other hand, you cannot create striking color pictures outdoors? Hardly! It does mean that colors do not swear so horribly at each other under bright sunshine. Only under extreme cases of poor judgment in color combinations do you cringe under them.

Let us begin with the most difficult color to harmonize in flowers: magenta. The dictionary calls it a peculiar purplish shade of red, furnished by the dye fuchsin, and tells us there was no such color by that name until 1859, when the battle of Magenta was fought in Italy. Anyway, it is a disturber of the peace among flowers. It is too red to harmonize with a

strong yellow, and too close to blue to go well with other reds and oranges. The best thing to do with it is to get a lot of white fine-textured blossoms in its neighborhood and then all is well. Spirea Anthony Waterer is an illustration of this magenta; some phlox have the same color, and can be pacified by white phlox.

Blues and yellows, being on opposite sides of the spectrum, always harmonize well by contrast. So do red and green.

All of this talk so far is well enough as far as it goes. But in actual gardening we have to do with plants and flowers, not with hypothetical colors. Form and texture influence color combinations.

The thing to do then is to watch for good flower combinations rather than figure out in theory what colors should do well together. I remember an article called “Don't let Color get you down,” in which the author mentioned his experiment with a magenta annual phlox and a zinnia, called Buttercup. The result was horrible in full sunlight when the red predominated, beautiful in twilight when the blue was brought out. On the other hand the Common Lilac

**FOR YOUR GARDEN OF DISTINCTION**

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*designer and contractor*

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goes well with Hugo's Rose at any time.

In general, different varieties of one kind of annual go well together: there is enough similarity in the color. Always, whenever in doubt, add white. More harmony has been created by Baby's Breath than will ever be known.

Among annuals (and perennials as well) we should watch for clashes between the warm reds and the cold reds. I seldom place Oriental Poppies close to purplish red peonies, but have the one dominate the opposite side of the flower border brightened by the other. Scarlets and oranges, on the other hand, love the companionship of greys and silvers. Have you ever seen a scarlet poppy against a newly budded Russian Olive?

In spite of its publicity I have always been wary of Fire Chief Petunia; Rosy Morn is much easier to harmonize.

In verbenas also there are a few "difficult" varieties; on the other hand, what a gorgeous display can be had with the "good" ones.

In the final analysis it all comes down to one's personal taste, doesn't it? And in any case, remember white and green as the peace makers when in actual or prospective color trouble.

## GARDEN GUILD CASE

The February 25, 1955 issue of Printers' Ink gives the finale on the Garden Guild. The promoter of the Blue Rose and Roses of Shangri-la, Mr. John T. Southwell, head of the Garden Guild of America, was found guilty of using the mails to defraud in St. Louis Court and was sentenced to 8 years in federal prison and fined \$1,600. The advertising agency and newspapers and radio stations are reported to have made refunds to satisfy complaints of over \$100,000. The Agency attempting to clear itself with the newspapers and radio stations depleted its capital to a point which lead to an acceptance on the part of the creditors, of 50 cents on the dollar. The report continues:

"Today Southwell is in prison, the Guild is non-operative, and the agency is fighting its way back with the blessing and help of the media involved. Newspapers and radio stations are taking a much closer look at ads and commercials, before not after. Undoubtedly, they will make it tougher for fringe offers and bait advertising. They have written off their loss, but the memory lingers on."

(From a Bulletin of the American Association of Nurserymen.)

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## F<sub>1</sub> HYBRID SNAPDRAGONS

**I**F you have ever clasped a Snapdragon floret between your thumb and forefinger and squeezed it gently, you have probably been amused by the way it opens and closes its "jaws." Someone, many years ago, must have observed this peculiarity, hence the common name, Snapdragon, which is today in current usage throughout our entire country.

Botanically, the Snapdragon is *Antirrhinum majus*, and very little is known of its early history. Records seem to indicate that it was first grown as a cultivated plant in Italy, from whence it spread to the remainder of Europe. At the present time the species can be found growing wild in many spots along the Mediterranean coast, west of Italy. We know that it was popular as a garden flower as far back as 1578, at which time several varieties were recognized. By 1824 practically all the colors which exist today were being grown, although plant forms were entirely different. It wasn't until the latter half of the nineteenth century that Snapdragons were normally grown

from seeds. Prior to this, propagation had been entirely by cuttings, with some new varieties being sold for as much as \$1.00 a plant.

Some time after the turn of the century the winter flowering greenhouse type was developed by commercial florists. Before this time, all Snapdragon varieties had been adapted to outdoor summer use in gardens. It wasn't until about fifteen years ago that the first F<sub>1</sub> Hybrid Snapdragon varieties appeared on the market. Even though propagation by seeds had entirely taken over the older cutting method, all of the varieties offered were inbred or self-pollinated kinds. The first F<sub>1</sub> Hybrids were winter flowering greenhouse varieties, developed for use by florists. Their primary advantages were a faster and more vigorous rate of growth, larger florets, and longer flower spikes produced in greater abundance, plus better uniformity, along with greater disease resistance.

The first F<sub>1</sub> Hybrid varieties for summer garden use were offered last year by the seed firm of Geo. J. Ball, Inc., West Chicago, Illinois. Seven varieties comprising a complete range of colors and including a mixture called Hit Parade were cataloged. Gardeners who have grown these new types were surprised at their performance compared with older outdoor Snapdragon varieties. It seems only natural to assume that newer and even better outdoor F<sub>1</sub> Hybrid Snapdragons will make their appearance in the near future.

The Hybrid Snapdragon's culture doesn't differ from that of ordinary Snapdragons, except that because of their faster rate of growth seed should be sown a week or two later





indoors in order to have plants of the right size to put out when danger of frost is past. They may be sown indoors about six weeks before planting out time, or the seed may be sown directly in the open after the soil has warmed somewhat in the spring. Seed of Snapdragons is, of course, quite small, and if sown in the open should be handled very carefully to insure a good percentage of germination.

Well-grown Hybrid Snapdragons should have stems 18 to 24 inches in length, with flower spikes 6 to 8 inches long; and we can think of no plant which is so admirably suited for summer bouquets as this outstanding garden annual. It is extremely attractive whether used alone or in combination with other flowers.

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"GARDENITIS" is what the W. A. Natorp Co. of Cincinnati, calls the disease which afflicts many of us. They say it's catching and likely to spread through a whole neighborhood. Here are a few symptoms that people with "gardenitis" have: Broken fingernails, insect bites, scratches, leathery skin, lost gloves, lost spectacles (mine were dug up in the spring), lost tools, back ache, knee ache, possible ivy poisoning and bee stings, and complete neglect of other duties.

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## GARDENING FOR COLOR

A new book—1954.

When you are told that this small-sized book is written by William H. Clark, it may not mean much to you, but when you know what he has done and is doing, it may take on a different look. At the present time he is a constant contributor to many garden magazines. For four years, from 1946 to 1950, he was editor of *HORTICULTURE*; he writes on gardening for the *NEW YORK TIMES* and *BETTER HOMES AND GARDENS*.

Many problems that might vex us all are dealt with in this unusual book; how to choose flowers whose color will harmonize with and complement each other and how to be sure that these flowers will blossom together, also how to insure constant bloom throughout the season. The background and settings are most carefully planned and a special thought is given to the winter picture. For the reason that this brief book is written on color does not mean that form, coherence and unity have been neglected. Spacing is carefully studied also. The edge of the bed, the author says, should be low, with spring bulbs never set out in stiff rows, for when they die down the unattractive spaces are left. He does not fail to tell us that these spaces may be filled

with annuals, which, of course, should be started indoors and which should be in flower, or at least, in bud when set out. He writes further, "In the back of the border there should be height and plenty of green—any shade. In between the low front and the tall back there should be intermediate plants. The height should progress as it goes toward the rear but carefully avoid uniformity. This can be done by planting, say, a clump of Iris or any other taller plant, here and there, throughout the border. All these things are considered as various objectives of the gardener.

Helpful tips are given in the book on planning and planting for best effects. Single-color gardens, blue, white, etc., are considered in Chapter 6, page 150. It includes not only plants, but trees, shrubs and vines for the different seasons for gardens of special color.

There is an "in general" at the beginning of the book which tells what to expect later on and concludes with a "topper" on the *hardy border*. You will miss something if you fail to read this exceptional book on *Color*.

Helen Fowler

## THE TRIMUPH OF THE TREES

*A book of almost poetical excellence.*

Its publishers say, "this book falls roughly into three sections: the first deals with the overwhelming importance of the tree in the economy of nature, the second with man's attitude to trees as expressed in myths, folklore and customs, the third with the wholesale slaughter of trees in our own time and its violent aftermath."

The writer, John Stewart Collis, loves all nature and all its possible

bounty for mankind. He points out the ruthless destruction that man has practiced as he has grown toward civilization. However, he is not sounding a note of doom when he says, "We have reached a point now when we must revise our conception of man's place in nature, or suffer consequences such as have never occurred to us in the process of our conquests."

The style of this book is direct without being tiresomely chummy. His work is that of a scientist, his documentation that of a scholar, his manner that of an artist. The Triumph of the Trees has had its own quiet triumphs in many leading literary journals. The groves were God's first temples, remember.

Helen Fowler

## GOOD-BYE CHICKWEED

The most effective control for Chickweed is a new chemical, Disodium Monomethyl Arsonate, called Sodar for short. It works at low temperatures early in Spring. In tests at Vaughan's Garden Research Center in Western Springs, Ill., it gave close to 100% control at temperatures as low as 50 degrees.

Unless killed early, before warm weather comes, reseeding of bare spots left by dead Chickweed will be delayed too long to establish a good stand of grass on these areas. And unless a good stand can be established, these spots are likely to be taken over by crabgrass or more Chickweed later in the season.

Older chemicals were not effective at below 70 degrees, allowing Chickweed plants to produce seed before they could be killed.

Sodar works at temperatures as low as 50 degrees, and up to 100. It is a contact killer, with no residual effect. This means that it turns into harmless compounds once its work is done so that permanent grasses can be seeded on the bare spots. Older chemicals controls were so strongly residual that they prevented seed from sprouting for as long as four weeks after application.

Sodar is harmless to permanent grasses when applied as directed. It can be put on with either a sprinkling can or a sprayer.

When applied early it also kills knotweed, a lawn pest for which no other chemical control is available. This weed goes under a number of names such as Farmer's Lawn, Knotgrass, Mattgrass and others. It is killed at the same time as Chickweed.

Sodar was developed originally as the active ingredient in Vaughan's Crab Grass killer, for which purpose it was equally effective. Ordinarily, spraying for Chickweed and Knotweed must be done earlier than for crab grass. Crab grass seedlings do not appear as a rule until after the apple blossoms have dropped their petals.

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## A PEEK AT THE MAIL

*Editor's Comment:* We are printing extracts from more letters that were received in answer to the President's letter to members in the November, 1954 Green Thumb. Lack of space prevents the use of all the material.

There have been a number of strong statements for and against the construction of the Echo Park dam in Dinosaur National Monument. Recognizing that this is a controversial issue, the Board of Directors of the Association has not taken a position on this matter. Articles that have appeared in the Green Thumb have been informational, so that members would understand the issue involved, and if so inclined, would acquaint their Congressmen and Senators with their views.

Among the objectives of the Association, included in its certificate of incorporation, are engaging in activities tending to advance forestry, horticulture and allied sciences, to advance conservation and to promote the establishment of state, city, town and roadside parks.

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Letters follow:

Dear Mr. Johnson,

The Green Thumb is an established horticultural publication now in its 11th volume, and as far as I know, it is very well accepted. It is one of the horticultural publications that I go through rather carefully each month, and I have a lot of them come over my desk. My judgment is that you will lose no subscribers by raising the membership cost from \$3.00 to \$4.00 or even \$5.00 and then your Association will be on a sounder basis.

Cordially yours,  
Richard P. White,  
Executive Secretary,  
American Assn. Nurserymen

---

Mr. F. R. Johnson:

To answer your inquiries in the recent Green Thumb Magazine.

I once lived in Denver, so have continued the magazine the 4½ years I have lived in Cheyenne, and love it.

1. Yes, I read everything, ads and all.
2. I would pay \$4.00 a year for it.
3. Nine issues are O.K.—as true, a few months are not gardening news.



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4. Rocky Mountain Hort. Conference is stimulating. I attended 2 year conferences on days of interest to my gardening problems.

5. State parks—attention is somehow secondary to me in a driving campaign.

Have read all of G. Kelly's articles, and as usual, he says with convincing authority what he believes.

Yours truly,

Mrs. Alma B. Dunleavy,  
Cheyenne, Wyoming

Dear Mr. Kelly,

I have just received and looked through the February and March Green Thumb. It is certainly a good issue, and I want to compliment you upon it.

We feel that your reorganized program is bearing considerable fruit when it can produce as informative

and complete issues as this. It should be vital for residents of your area to have so much reference material under one cover.

Cordially,

Robert W. Schery  
Scotts Lawn Care Products  
Marysville, Ohio

Dear Mr. Kelly,

We were delighted to see The Green Thumb listed as an outstanding garden magazine in the February issue of CONSUMER REPORTS. Of course, we have always thought it a fine publication, and are glad to see that it now has national recognition.

Best regards from Mr. Northen and myself.

Sincerely,

Rebecca T. Northen  
Laramie, Wyoming

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### STARCHED AND SPANGLED SPIREA

Just before Christmas we cut twigs from the *Spiraea arguta* bushes in lengths from about 20 to 24 inches, suitable for use in vases. The twigs were dipped in fairly thick laundry starch water and sprinkled at once with Christmas tree "snow."

I understand that making spirea twigs gleam and glitter in winter is an old practice in many parts of the country and no doubt in Europe also.

The branches require no water and last for months. If a glass vase is used then, for a gay effect, it may be filled with Christmas tree balls and a few stones in the bottom of the vase for greater stability.

James B. Stewart





*A double Sunflower is a very attractive, tall, fall-blooming annual.*

## PURE CORN

An applicant was being screened for a job in horticulture. Part of the aptitude test consisted of writing a paragraph, of about one hundred words, that would convince the employer that he was familiar with his subject. His efforts:

"If Rosemary had a date with Sweet William she wood spear any modern Cleopatra with her asparagus; fallow the French designers by sowing a chicory cover; plant a dab

of muskmelon behind each ear; transplant her cauliflower from the cold-frame (being careful not to squash it) grab her rutabaga and as a pear they wood cabbage onto a carrot, go to some endive or mushroom; beet upon the door until some prune raked them in. Then, they wood pump kin folks' upper limbs; be mulched from a radish; soaked by a hotcap; clipped on the nozzle and heeled in until the Spring hoedown."

He got the job.

Susan Scott

---

Listen to the GREEN THUMB program on KLZ every Saturday morning at 9. It is full of information particularly adapted to Colorado gardening.

---

## SCIENCE AND COMMON SENSE

By JOHN SWINGLE

**W**E are truly living in an age of Science. On February 21st a flight in one of Bob Six's Continental planes took me to St. Louis in four hours. Good food and a pretty stewardess made the trip seem like traveling on a magic carpet. In contrast to the trials and tribulations which our grandparents suffered and the time consumed in making the same trip, this is indeed an age of achievement. When not looking at the pretty stewardess, I read articles on new miracle drugs and what they mean to us living in this atomic age.

My destination was the Chase Hotel, St. Louis, to attend the Midwest Chapter of National Shade Tree Conference. Here I heard such men as Dr. J. C. Carter of The Univ. of Illinois, Dr. T. W. Bretz and Dr. R. N. Goodman of the Univ. of Missouri and E. F. Herrbach, horticulturist for Standard Oil Company, and many others. These men discussed the diseases which destroy many of our nation's trees; the new antibiotics and systemics used in the control of tree diseases; the new chemicals and how to use them safely; how certain diseases were carried by insects and how to control them. Listening to these men of science, I felt that everything could be controlled by drugs,

and chemicals, until they brought me back to earth by the statement that common sense in tree care—in other words, **SANITATION**—was perhaps as vital as all the new discoveries put together. It was brought out clearly that dead and diseased trees provide snug winter quarters for many shade tree pests. As spring approaches, the insects emerge and spread to living trees and shrubs, carrying often fungus spores; or the insects themselves may be a specie of beetle or borer that is capable of causing serious injury to living trees.

As George W. Kelly, editor of this little rag, has stated many times, we in Colorado do not have the weed trees that grow so abundantly in the East. Almost all of our precious trees have been imported and we want to keep them for many, many years. So to protect them we must use common sense—the immediate removal and burning of dead and diseased trees which are the breeding places of insects. In contrast to the East, we are more fortunate in that we do not have these weed trees that make sanitary measures extremely difficult. Sanitation, if properly managed, can prevent in a large measure the ever present threat to the trees which are so vital to our health and comfort.

---

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# *The Green Thumb*

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May, 1955

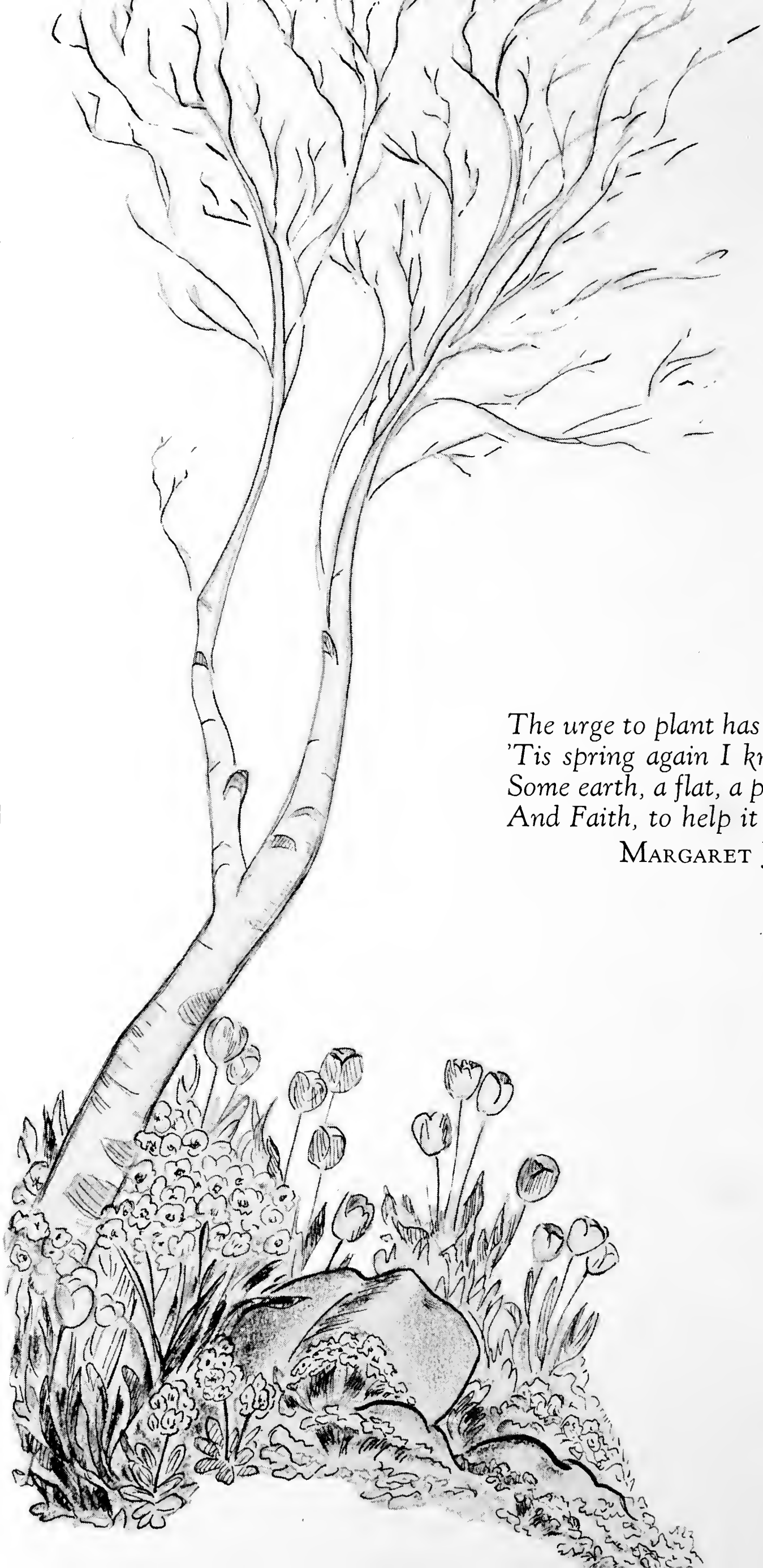
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# *The Green Thumb*

COLORADO'S GARDEN MAGAZINE



## PERENNIALS



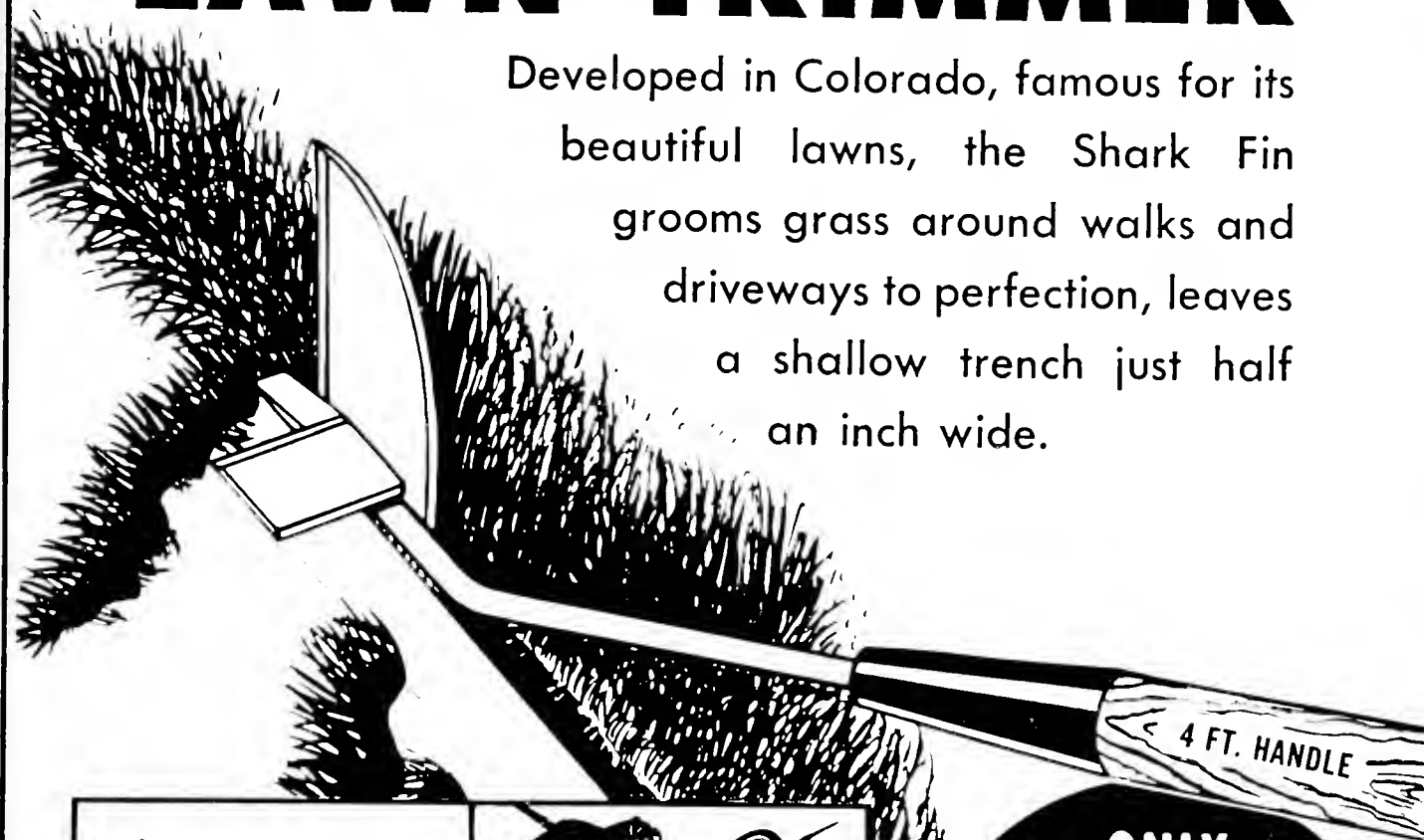
The urge to plant has hold of me,  
'Tis spring again I know.  
Some earth, a flat, a pack of seed,  
And Faith, to help it grow.

MARGARET JANOSKY.

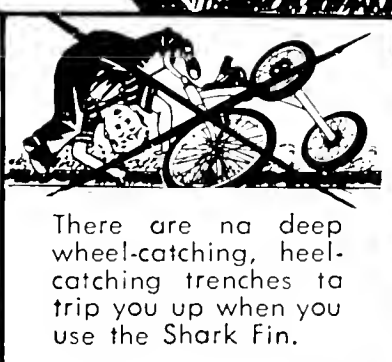
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## LOOK AND LEARN GARDEN TOURS FOR 1955

The Garden Tours Committee has announced dates for the tours now being arranged for this season. They will be Wednesday, May 18, when it is hoped the bulbs will be in bloom; and Wednesday, June 22, when Roses are making their showing; the July trip will be on Sunday the 17th and will be in Boulder where there are so many nice gardens. The August trip will be on Wednesday again, the 17th. Gladiolus and annuals should be in their prime then.

Gardens shown on the first tour will include:

Mr. and Mrs. Ralph Rickenbaugh,  
600 S. University

Miss Florence Martin, 3825 E. Warren

Mr. and Mrs. Wm. E. Vogt, 3060 S.

Colorado Blvd.

Mr. and Mrs. Calvin M. Seiler, 3400 S. Ash

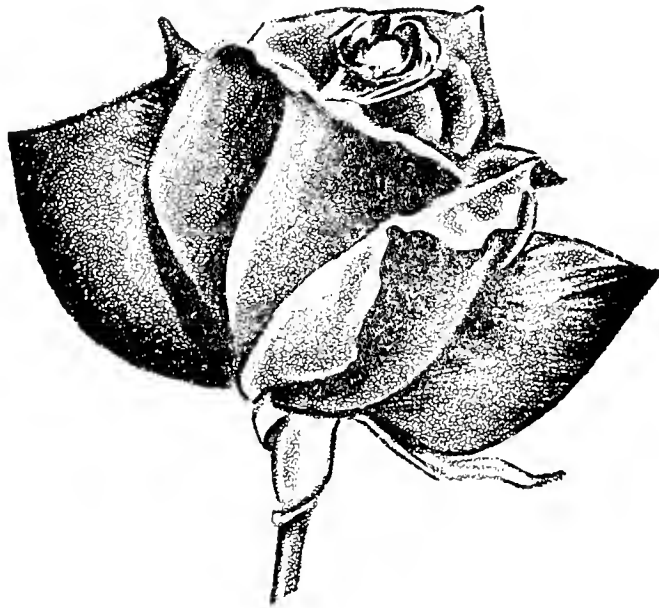
Mr. and Mrs. George Hayden, 2711 Willomet Ave. (South of Bellevue and east of University)

Mr. and Mrs. James B. Henritze, 15 Martin Lane (South of Hampden and east of Clarkson).

Season tickets will sell for \$2.50 and trip tours for 75c. These may be purchased in advance at Horticulture House or may be picked up at the first home visited.

Mrs. Robert McCurdy and Mrs. Chester Cassel are Co-chairmen of the committee with Dr. A. A. Hermann vice-chairman and Mrs. Wm. Vogt secretary.

Reserve these days and tell your friends about them. It will be a wonderful opportunity to Look and Learn from good garden features under the direction of experts.



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# The Green Thumb

Vol. 12

MAY, 1955

No. 4



## Colorado Forestry and Horticulture Association

Organized in 1884

"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

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*No person, firm or organization is hereby permitted to state that we, the editors and directors, endorse them because they advertise in the Green Thumb, have stories published in it or use Horticulture House for meeting or mailing purposes.*

*We request our members' comment on any apparent misuse of these privileges.*

## Business Hours at Horticulture House

Hours that Horticulture House is open for phone calls or visiting are from 8:30 A.M. until 5 P.M. every day but Saturdays, Sundays and holidays. Please note these hours and do not call at other times.

## ANNUAL PLANT AUCTION

Kenneth Wilmore, chairman of the Auction Committee this year, has announced that it will be held in the yard at Horticulture House, May 7.

Be there with all your friends, for there will be fun and bargains for all.

GEORGE W. KELLY.....Editor    MRS. HELEN FOWLER.....Librarian  
PAT CROOK, Asst. Editor and Librarian  
MR. AND MRS. SPIRO L. NICKOLAS, Custodians

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## THE COLORADO FORESTRY AND HORTICULTURE ASSOCIATION

A non-profit, privately financed Association.

1355 Bannock Street

•      Denver 4, Colorado      •

T A bor 5-3410



*Attend the*

# **PLANT AUCTION**

**Saturday, May 7, 1 P.M., Until Sold Out**

**In the Parking Lot at the Rear of  
HORTICULTURE HOUSE  
1355 Bannock Street**

Get your plants and garden supplies at bargain prices and have fun doing it.

Plants and garden materials donated by interested nurserymen and gardeners. Proceeds from this sale help our Association to continue its good work and keep the annual dues low.

## **DENVER'S PARKS NEED YOUR SUPPORT**

**E**VERY citizen of Denver should become informed as to the reasons for the proposed bond issues to develop the park system.

It is certain that parks are most important to the development and enjoyment of the city, and it is also

certain that they cannot be properly maintained and developed with the present available finances. Whether we want to pay cash for these needed and desirable improvements or stretch out the payment by issuing bonds is something for you to decide. Inform yourself and then vote.

## **FOR YOUR GARDEN OF DISTINCTION**

**CARL A. HOFFMANN**  
*designer and contractor*

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## SEASONAL SUGGESTIONS FOR MAY—

1. May is the "do I dare plant it this early?" month, and so we must keep in mind that we live in an area where late freezes are apt to occur. Therefore, if tender plants are set out, be ready to give them frost protection on short notice.
2. Keep a sharp eye on shrubs such as snowballs, other Viburnums, red-ozier dogwood, etc., for plant lice when new growth starts. These insect pests commonly live through the winter on the stems of such bushes near the buds from which new growth comes, and are ready to attack the soft new growth. Much lasting damage can be done in a few days. If the insects do appear, spray with one of the pyrethrum-rotenone mixtures or lindane. If the day is warm (above 70°), nicotine sulfate will do the work. With any of these water-soluble sprays, use enough soap or detergent to get a good coverage.
3. Many who have new gardens will have tulips and other bulb plants, and will wonder what to plant for a later show in the bulb beds. Now is the time to watch the growth of a number of kinds of perennials which will begin to shoot up about the time the bulb species are done. This will help to avoid the temptation to cut down the bulb plant leaves before they are thoroughly ripened. (Refer to the article in this issue on the growth of perennials, page 16).
4. Mid-season and late-season perennials such as delphiniums, daisies, and chrysanthemums can be moved this month. Don't be afraid to use a neat water-conserving mulch around the newly-set plants.
5. Apply lots of mulch materials this year and find out how much better the soil becomes when kept cooler and moister and also how much less water it takes to get the same results.
6. When taking lilac flowers, or flowers from any other flowering shrub, use a pair of pruning shears and make neat cuts just above a side bud. In other words—don't damage the bush, but "prune off" the desirable flower cluster that is to go in that indoor arrangement.

---

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Hillcrest Garden Forum, Wheatridge.

## STURDY PERENNIALS FOR GARDEN AMATEURS

By MAUD F. McCORMICK

WHEN we think of easy perennials in our Rocky Mountain region this year, many of us have in mind those plants that prefer drouth to drenching. Web-footed plants were never too happy here where the air is dry and light and evaporation from the most carefully watered gardens is quick and constant. Now when we seem to be reverting to those conditions in which the yucca, the thistle poppy, and the prickly pear cactus flourish, we are inclined to select plants willing to endure dryness, especially after midsummer, when the moisture content lessens in the air, the soil, and in the irrigation ditches.

Hollyhocks, heleniums and rudbeckias come immediately to mind. They are coarse plants, adaptable to the screening of unsightly alleys and unkempt neighboring back yards. Hardy asters will take as much punishment, and many improved perennial asters make effective plants in the garden border. But we may choose from many, many other excellent plants which often do better under our harsh climatic conditions than in sections where nature is more kindly to most plant life.

Both iris and hemerocallis suffer in really moist climates, since neither can abide wet feet. Oriental poppies too, flourish in our dry air. Alyssum saxatile, our glorious May basket of gold, will endure all that the common gaillardia of our dry mountain slopes can take, and still become a mound of gold year after year. Clove pinks, (*Dianthus plumarius*) bloomed for many seasons in my garden under such neglect as no well-groomed garden ever suffers. Established platy-

codons sent up spikes of blue under equally adverse conditions. Perennial blue flax, veronicas, coreopsis, globe thistles, and feverfew make few demands on the gardener, as do the sunroses (*Helianthemum*), alpine pinks and sedums that grow at the edge of the border.

Plants like these and many others which our local growers keep in stock will grace our gardens despite drouth, disease and plant pests. Most valuable of them all I consider those treated at greater length below. The order is that of their period of bloom.

### Iris

Of all the plants mentioned, none offers so much variety for the garden as does the rainbow bearded iris. It needs no winter protection, is not particular as to soil, prefers little or no cultivation, withstands much drouth, and is easy to separate and transplant when the clumps become too old and crowded to bloom well. Best of all, it does not depend on insecticides for its health and well-being.

While bearded iris do best in fertile soil and like moisture in the spring when buds are forming, I have never seen them actually die of thirst or starvation. Grossly neglected plants show small blooms on short spikes, but they continue their struggle for survival under conditions no self-respecting gardener would ever ask them to endure.

Their wide variety of color lends itself to almost any picture the gardener fancies. I have seen them in all-white gardens, in borders of purple and gold, in paler blues and pinks, in pastel plicatas, and in the rich dark



reds and bronze. As they vary greatly in height, they are useful in different parts of the border.

The best planting time for iris is a month or so after blooming, but these amenable plants may be moved successfully at any time when the ground is not frozen. Quite a number which I was forced to move in late April last year produced bloom in early June. Flowers were not really

fine, of course, but, as Dr. Johnson once said about a woman's preaching, and a dog's walking on its hind legs, the marvel was not that they could do it well but that they could do it at all.

### **Oriental Poppies**

Not so valuable in the garden as are the iris, Oriental poppies make such a gloriously breath-taking display of bloom that they are a real



asset. Mammoth reds and a wide variety of inimitable pinks have supplanted the orange-red so often out of harmony with the more gracious flowers nearby. The whites recently produced are probably less sturdy than the colors, but all should be hardy here. The double Oriental poppies have a different root system, and a warning against the double Olympia may keep the garden free from a very seriously invasive pest.

For the poppy tribe, fall planting is a must not to be ignored, as the perennial poppies can be moved only when dormant. Here the time extends from late August well into September. Once established, they are difficult to eliminate as bits of roots left in the ground frequently produce new plants. Hence it is wise to determine exactly where you want their splash of color before putting them in the ground.

### Hemerocallis

Equally as free from disease and pests as are the poppies and the iris, hemerocallis are more wind-and-weather proof and when not in bloom are clumps of graceful foliage. Only within the last few years have they gained their proper recognition in the

garden. From eight little known species at the beginning of the century, the plant-improvers have given us innumerable varieties in a wide range of colors from the palest of creamy yellows to the deepest reddish purple, even with a few so-called pink types. Some blossoms now last for two days, I am told, and most of the newer kinds have less transient bloom than did the older ones. The flowering season is far longer than that of the iris, beginning with spring-blooming dwarfs *minor* and *Dr. Regel* as well as fragrant pale yellow *flava* and extending well into September. Most of them, of course, flower during a dearth of perennial bloom in midsummer.

These undemanding plants please the lazy gardener by their willingness to live long in undisturbed graceful clumps in full sun or open shade, in periods of drouth, and in a variety of soils. The best time to plant them here is immediately after they finish blooming so that they can establish growth and anchor themselves in the ground before the end of the growing season. Such plants produce first season bloom while those transplanted in early spring are less likely to do so.

In autumn, chrysanthemums in bloom between the hemerocallis clumps extend the glory of the garden till the hard freezes end it. Since chrysanthemums do not belong in a list of drouth-loving plants, but must have good soil and moisture while they grow, they should be grown in a well-tended row in the kitchen garden and moved in full bloom to light up the autumn borders.

Clearly there can be good garden-borders without too much sprinkling and spraying. They can be augmented, of course, by many amenable





annuals as well as by all the choice and exacting plants the gardener cares to coddle. Curiously enough, most of such plants perform better than they can be expected to do under adverse conditions. Many of us are willing to give the care the tuberous-rooted begonia requires for the joy of seeing its breath-taking beauty. Others would not be without the tall spires of the delphiniums, whatever the care needed to keep them in the

border. People here do make the Japanese iris—the *water* iris—live and bloom. If a rare plant's requirements are known and a painstaking gardener supplies them, he often has a success that surprises even himself.

This article, however, concerns only the basic plants that do best for the least time, toil, trouble, and water. And there are plenty of them to supply garden pictures for even the busiest part-time gardener.

---

## MY FAVORITE PERENNIALS

VELLA CONRAD

**A**STER FRIKARTI—This is probably the number one perennial in my garden. I like the soft lavender-blue flower with yellow center. The foliage (gray-green) is always attractive and blends nicely with other perennials and shrubs.

Wonder of Staffa, as this is sometimes called is indeed a wonderful plant. The continuity of bloom—June to frost—is amazing, and I have never had to spray for insects or disease.

Try this one in your border with Shasta Daisies, pink Mums, and soft yellow colors in either perennials or flowering shrubs. It is an eye-catcher when planted in groups as a background for rose beds, and is especially nice with the hybrid tea rose Helen Traubel.

**DORONICUM** — Soft yellow, daisy-like flowers are synonymous of spring. What a lucky find when **DORONICUM** was suggested to me as a companion for tulip Scotch Lassie. The foliage is unusual, large heart-shaped leaves that disappear in summer. In partial shade and sheltered, this one truly performs, often sending up stems 24 to 28 inches tall. A spring bloomer but worthy of consideration.

**HEUCHERA** — More commonly called Coralbell. A little gem and one of the nicest and most effective border plants. Neat in habit, the foliage comes out from a crown. These too, are heart-shaped. The panicles of coral-red, pink, or white blooms are constant.

**LYSIMACHIA CLETHROIDES** —White Loosestrife. I found this one in Mrs. Weber's garden years ago. I like it for the long, recurved spikes of pure white flowers, blooming all summer. Although weedy in habit, you will find this a welcome addition, in moist shady borders, and I have grown it in full sun successfully too.

**MONARDA** — There are many colors in this, but the prettiest, I think, is **CROFTWAYS PINK**. Grow in full sun or partial shade. The foliage is fragrant.

---

You rise, alert, to greet the day's  
first glow,

For they who slumber late will never  
know

The beauty of the dawn, nor ever see  
The early morning sunlight in a tree.

JENNIE.

## MORE PERENNIALS WITH LESS WATER

By L. J. HOLLAND

**D**URING the past few years there has been an ever increasing amount of anxiety expressed by homeowners concerning the water situation, and right now the future looks none too bright. It is regrettable that too many gardeners assume the attitude of "What's the use?", rather than to accept the existing conditions as a challenge and devote our efforts towards beautifying our homes despite adverse climatic conditions. There is no place in a garden for defeatism.

There are three factors of prime importance to gardening where there is a shortage of water; improvement of soil texture, conservation of moisture and selection of plant material

that does not require an abundance of water.

A soil of good tilth requires much less water than one of poor structure. One with too much clay does a poor job of absorbing water, while one that is too sandy does an equally poor job holding moisture; both of these conditions can be remedied by working humus into the soil. Compost, peatmoss, barnyard manures and leaf-mold are all good agents for making the soil more friable, and all, save peatmoss, supply an appreciable quantity of nutriment.

Assuming that you have good garden soil, you can save at least half the water usually used by a good mulch properly applied. Any of the materials I have mentioned for soil conditioning make excellent mulches, and, as they break down, add needed humus to the soil. Mulching not only greatly lessens loss of moisture due to evaporation, it also is an insulating medium, keeping soil cooler in hot weather and helping prevent "heaving" of the soil in winter, due to freezing.

Contrary to popular belief, the selection of plants suitable to sections with restricted watering presents no major problem. In fact, most plants give a better performance if watered thoroughly once a week instead of a haphazard sprinkling every time conditions permit. Almost any plant listed in catalogs as thriving under average garden conditions will give a very good account of itself even where watering restrictions are imposed if the procedure outlined above is followed. Although a complete tabulation of all plants suitable to such culture would be too long for any article, the follow-

*Gaillardia*



ing abridged list may serve as a guide to the less advanced gardener.

Some perennials suitable for foregoing culture:

Columbine — *Aquilegia canadensis*, *A. chrysantha*, *A. vulgaris*.

Aster—all hardy varieties.

False Indigo—*Baptisia australis*, *B. tinctora*.

Chysanthemum—Korean Hybrids, Azalea-mums.

Coreopsis—All varieties.

Delphinium—*D. belladonna*, *D. bellamosum*, *D. chinensis*.

Dianthus—All except *D. caryophyllus*.

Daisy—Shasta Daisy, Painted Daisy, Golden Daisy.

Gaillardia

Daylilies—Some of the evergreen types may prove too tender.

Iris—Dwarf and Tall Bearded varieties, also Siberian.

Evening Primrose: *Oenothera missouriensis*, *O. lamarckiana*.

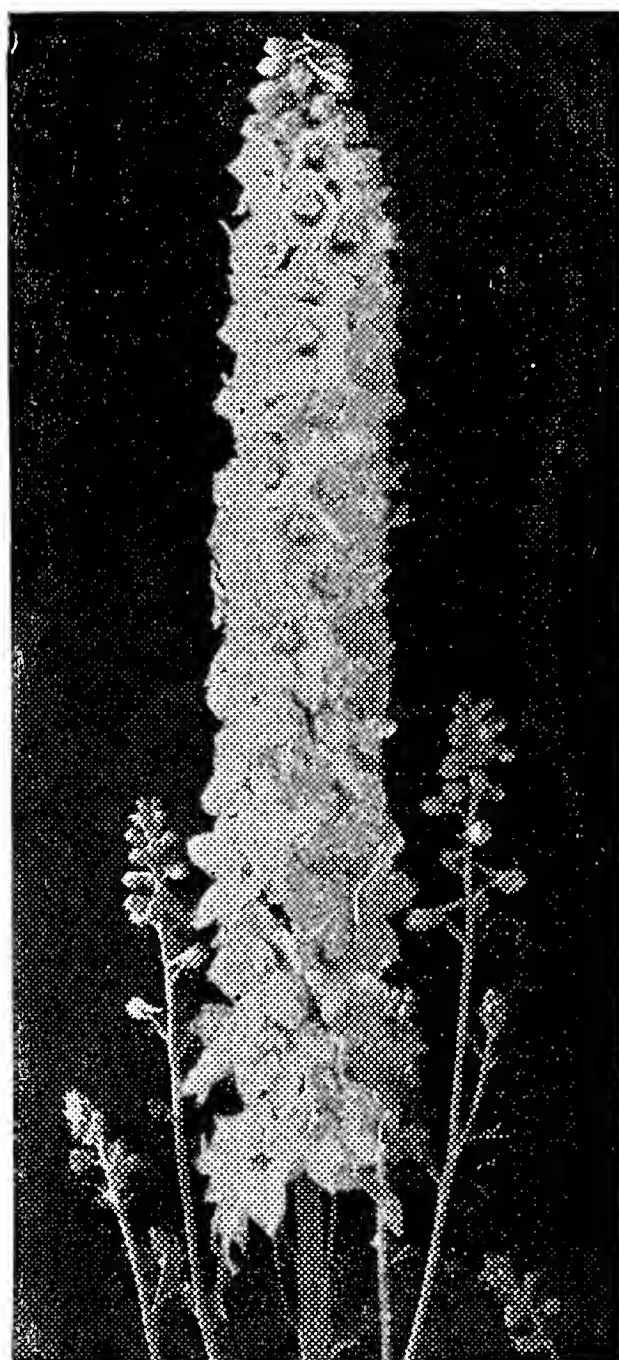
Gayfeather—*Liatris elegans*, *L. pycnostachya*.

Lupines—Russel's Hybrids.

Hibiscus—all the hardier species.

Pentstemon—all varieties.

Peony—a good soaking once a month is sufficient.



*Delphinium*

Phlox—the low growing types need less humus in the soil than the tall.

Poppy—both Oriental and Iceland.

Platycodon Grandiflora—Balloon flower.

Bluebells—*Campanula persicifolia*, *C. carpatica*, *C. rotundifolia*.

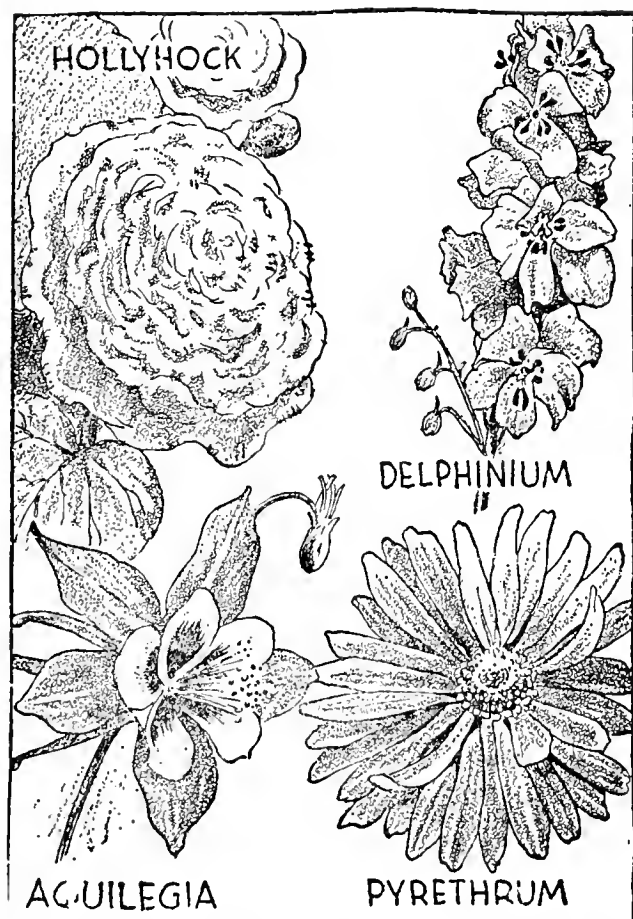
Foxglove—really a biennial.

Golden, Banner—*Thermopsis caroliniana*.

Trollius—Globeflower.

Practically all annuals, all rockery plants and all those that are loosely classed as bulbs respond remarkably well to this culture.

I'd like to point out that the plants included in the above list are not just "wistful wishing", all these and a good many more I am now growing or have grown here at my home in Denver.



*Four Popular Perennials Grown from Seed.*

## LET'S MAKE A GLADIOLUS CORSAGE

LEE AND ELEANOR ASHLEY

**F**EW people know that the gladiolus makes beautiful corsages rivaling orchids with their exquisite beauty.

All the materials you need will be a spool or strands of soft florist's wire No. 24, a finer No. 32 for tying the stems together, and a roll of floral tape. Green will be suitable for all corsages, but white is more attractive with the pastel shades of glads. Forget about ribbons on your corsages, as they are really very unnecessary and in most cases just detract from the classic beauty of the gladiolus blossoms. If your corsage is properly made, it will not need ribbon to fill in or cover up a bad spot.

Break off two blooms that are wide open by snapping them off the stalk in a downward direction. This leaves a short stem with a little green nubbin on the end. Next pick two smaller blossoms and a bud about to bloom. Take a length of number 24 wire twelve inches long and a big blossom; poke the wire through the stem just above the green seed pod. Don't poke it too high or it will tear the petals, if too low the blossom may break off its stem. If you can see the wire just visible in the throat of the flower, then you will know it is in the right place. As your skill increases it is possible to poke the wire a trace lower to make it invisible.

Push the wire at a right angle to the flower until it projects about four inches on the opposite side. Bend the long end down until it touches the stem. Starting high at the base of the flower, carefully wind the wire around the stem and the long end of the wire. Two or three twists

that you tear or crush the stem. Pinch off any stem below three twists for lightness is imperative since you are going to wear the finished job. Now your flower will have a sturdy stem of wire, pliable enough to bend into any arrangement you desire. Now wire the other blossoms and the bud in the same manner.

Unroll a piece of floratape about two feet long and stretch it a little; this makes it go on smoother; pick up one flower and wrap the tape around the stem and wire, starting as high as possible. Wrap the tape around it so it overlaps itself and completely covers the stem and wire. Tape the other flowers the same way.

In assembling the corsage, the general plan is to place the buds or the smaller flowers on the outside, and the larger blossoms toward the center front. Start with the bud and add one of the smaller flowers to the left, slightly below the bud, secure the stems with a twist of the light No. 32 wire. Now add other smaller ones over on the right. Finish by placing the other large blossom in the lower left corner. Keep the flowers in a zig-zag fashion, and you will have a better design. Wrap a final layer of tape around all the stems for neatness. Cut off all surplus wire, and tape the exposed ends.

Arrange each blossom so that it stands out at its most handsome angle and your corsage is ready to wear.

---

I'm tired of dust cloth,  
Broom and kitchen;  
For garden soil my  
Hands are itchen!

—J. H.





*The arrangement illustrated here was not made by the author, as ribbon has been used in its construction. We think it's pretty anyway.*

## MULCH WITH PEATMOSS

Mulch to conserve moisture — to improve soil texture — to eliminate excess labor. Peatmoss is one of the better mulches for this area. We have used bales and yards of it in our garden.

This season, with water restrictions, many gardeners are going to find that it is the answer to many problems. Those of us with many lots and water meters realized long ago that we had to use water wisely and that we had to find a way to retain moisture near the roots.

During the hottest weather, and with an originally sandy soil, we water once each week or ten days. All of our original flower beds were

prepared with peat and manure. By using a two inch mulch of peat over all the rose and perennial beds each year, we have steadily improved our soil, and eliminated much cultivating and weeding.

—VELLA CONRAD.

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# THE MARVELOUS WORLD OF PLANTS

HELEN MARSH ZEINER

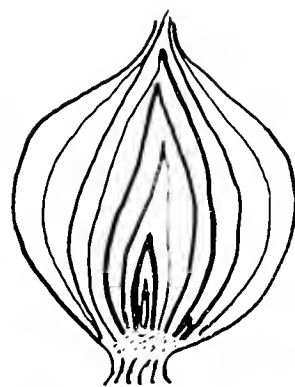
SINCE this is an issue featuring perennials and bulbs, let us see just what these terms mean.

Plants are divided into annuals, biennials, and perennials on the basis of length of life. An annual lives for only a single growing season, during which it sprouts from a seed, matures, and produces flowers and seeds to continue the species another year. The biennial lives for two years. The first year it develops leaves which produce a quantity of food that is stored in stems, leaves, or roots—the common beet is an example of this. The second year this stored food is used in the production of flowers and seeds, and then the plant dies. A perennial lives for several to many years, and may be herbaceous or woody. Trees, shrubs, and many vines are woody perennials. Many of our garden flowers are herbaceous perennials, whose tops die down each year and grow again the following season—thus the part of an herbaceous perennial which lives from year to year is usually an underground part. Rapid growth in the spring draws on food stored in these underground stems or roots, many of which are very efficient reproductive structures.

In the marvelous world of plants, nature has developed a variety of such underground structures. Among them are bulbs, a term often used loosely to mean almost any thickened underground reproductive structure. Since we so often say bulb when we mean something else, let us see what the various terms really mean.

A *bulb* may be thought of as a modified bud. It consists of a very short, flattened stem and a quantity of thick, fleshy scale-leaves filled with

stored food. These leaves surround a terminal bud at the tip of the stem, and lateral buds may be present in the axils of the scale leaves. At the base of the stem are many roots which develop when moisture conditions are favorable. The terminal bud develops into the aerial shoot of the plant, whereas the lateral buds may develop into new bulbs. The scale leaves are a source of food for these developing structures. Examples of the true bulbs are the common onion, which can easily be cut in half to show the above mentioned parts; lily, hyacinth, narcissus, and tulip.



A



B

A, Bulb. B, Corm.

A *corm* is a very short erect bulb-like underground stem, bearing thin scale-like leaves at the top or scattered over the surface, and a cluster of roots at the base. The main difference between a corm and a bulb is that in the bulb, food is stored in fleshy scale leaves making the main part of the bulb and only a small amount of stem is present, while in the corm food is stored in the stem which makes the main part of the corm and only a few thin scale leaves are present. Examples of corms are gladiolus, crocus, cyclamen.

The *rhizome* is a horizontal underground stem which grows at one end

and dies at the other year after year. A rhizome is a most efficient structure. It contains a good supply of stored food, and has buds and roots already formed so that the plant gets a quick start in the spring. Furthermore, if the rhizome is broken, each piece will grow so long as it contains a bud. Rhizomes may be slender as in some grasses such as quack grass and Johnson grass, or thick as in the familiar iris.

A *tuber* is also an enlarged underground stem, but tubers are shorter and thicker than rhizomes and lack roots. They commonly but not always are produced at the ends of rhizomes. The common potato is an example, each eye being a bud.

A *tuberous root* is a root which is so enlarged that it resembles a tuber, but it lacks the buds of an underground stem. These enlarged roots are often borne in clusters and are spoken of as fascicled root systems—for example, sweet potato, dahlia, peony.

The term "bulb" is so abused that some reliable nurseries list "dahlia bulbs", while others use the correct term, "dahlia roots". Crocuses are nearly always listed as bulbs instead of as corms. Perhaps it is of small consequence whether or not these structures are called by their correct names, but it is just as easy to be accurate—not to mention how smug you feel when your neighbor talks about her iris bulbs and you know all the time she means her iris rhizomes!

## D. W. SPANGLER CELEBRATES BIRTHDAY

Dallas Wilson Spangler, arboriculturist, nurseryman, apiarist, botanist and educator, celebrated his 86th birthday at his home in Longmont on March 4. His most interesting career is related by Mrs. Seletha A. Brown

in the January 1955 issue of the Colorado Magazine, official publication of the State Historical Society. A long time member of the Colorado Forestry and Horticulture Association, Professor Spangler will be recalled as a regular attendant at our annual meetings.

Coming to Colorado at the age of 20 for reasons of health, discouragement did not enter into the picture. His first employment, Mrs. Brown states, was on a fruit farm west of Longmont. This undoubtedly was the inspiration for his work in agriculture, and in the establishment of his own nursery for the production of shade trees, shrubs and plants.

For many years an apiarist, at one time he had three hundred colonies of bees which produced as much as ten tons of honey a year.

In 1910 he found an unidentified blister rust on pines near his summer cabin in the Allens Park area. This was called to the attention of Professor Ellsworth Bethel, botany and biology teacher in East High School, Denver, and an early-day member of the Colorado State Forestry Association. From these specimens furnished by Mr. Spangler, Professor Bethel traced the alternate host and life history of the rust.

Professor Spangler taught in the Longmont high school for forty-three years—many subjects were covered, but science was his chief interest. He is still active in his nursery and interested in anything that helps to develop the home and the community.

Congratulations and many more years of active and useful life to our good friend, "DW" Spangler.

—FRED R. JOHNSON.

*Reserve the afternoon of Saturday, May 7, for the Plant Auction at Horticulture House.*



*Shady Garden of the Author.*

## PLANTS FOR THE SHADY GARDEN

By MYRTLE ROSS DAVIS

SO often, I have heard people say "I can't grow any flowers in my yard because I have too much shade". Some of the very finest perennials do best in shade and there are others which will not tolerate direct sun at all.

Of course, it may not be shade which causes their trouble, but tree roots. No flowers will thrive if they have to compete for water and nourishment with the roots of fast growing trees.

When we think of shade plants we generally think of ferns. They must have shade and the native varieties do not require a great deal of moisture. Colorado male fern is probably

the best fern to grow in our gardens, but it is becoming increasingly more difficult to obtain. The lady fern, also a native, is a more luxuriant grower and multiplies rapidly. The dainty rock fern we find growing in our mountains does very well in our gardens.

The most beautiful of all shade plants are the tuberous begonias. They are the most trouble to grow because they have to be started indoors in early spring and taken up before hard freezing weather in the fall. However, they are certainly worth the trouble because their blossoms are very beautiful and last over



a long period. They bloom from July until frost.

Primroses, especially the polyanthus type, enjoy the dappled sun and shade of the shady border or nook. They will bloom for a month or six weeks in the spring and the same plants will sometimes have a few blossoms again in the fall. They multiply rapidly under favorable conditions and come in such a wide range of brilliant colors that they are a joy to grow.

Columbines will grow in the sun

Meadow-Rue or *Thalictrum* has fine columbine-like foliage with small yellow or lavender flowers. It grows two or three feet tall and looks pretty growing among the tall ferns. Some of the newer varieties have good sized flowers and are quite nice.

Old fashioned bleeding-heart is one of my favorites. When my plants die-out after four or five years, I always buy more young plants, because they are too attractive to do without.

Another old-time favorite which requires some shade is the Lily-of-the-Valley. They bloom best if given about an inch of barn-yard fertilizer in the fall.

For the cool blue color we all enjoy so much in our gardens we can grow *Mertensia Virginica* or the Chiming Bell from Virginia which flowers in the spring and *Aconitum*, Monks-hood, which flowers in late summer. I always try to have some fox-gloves (*Digitalis*) growing in my shady border. Their tall spires look well in the background.

Trollius or globe flower with its large butter-cup flowers of orange or gold is an excellent shade plant.

There is a little white *Anemone al-*



*Bleeding Heart*

but they like shade better. They can be grown easily from seed and come in a wide range of colors. However, they are a short-lived perennial and hybridize so readily that the self-sown seed usually produce light yellow flowers. It is best to buy the selected shades and never allow them to seed in the garden. The native Colorado blue is the most beautiful, in my opinion. Sow fresh seed in August. Old seed will not germinate properly.

*Plantain Lilies*





*Yellow Lady Slipper Orchid, Cypripedium.*

pina that I have had for years. It blooms in May. *Anemone japonica* is another excellent kind which blooms in the fall. September charm is a hardy beautiful pink flowered variety.

A tiny little pink *Androsace carnea* forms emerald-green mats studded with loose heads of pink flowers.

I must not forget to mention those excellent flowers from the eastern woods. May-apple, *Trillium*, Blood-

root, Dutchmans breeches and the Hellebores (Christmas rose and Lenten rose) all make good shade plants.

Some large-leaved plants which give the garden a variety in texture are the funkia lilies. They have white or purple blossoms and some have beautiful variegated leaves. *Bergenia* or *Saxifraga cordifolia* has large leaves and beautifully branched pink blossoms.

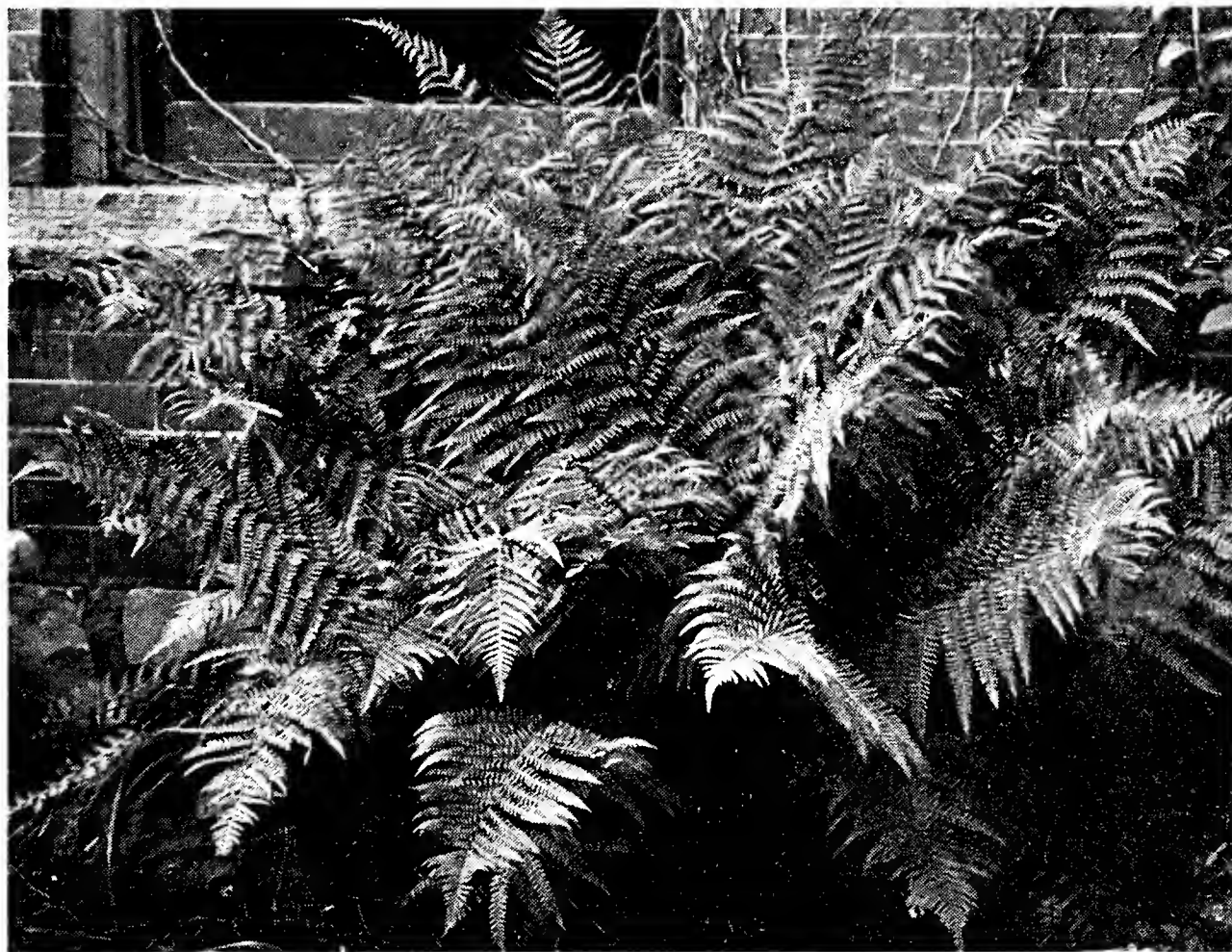
I have grown the native orchid,



yellow lady slipper and another one from the eastern woods quite successfully in my garden. Two other real gems which I have had are ground Dogwood (*Cornus canadensis*) and Alpine Columbine (*Aquilegia saximontanum*). I try to keep the soil

rich in peat and leaf-mold for these acid-loving plants.

These are the shade plants that I have grown successfully in my garden, but I am sure there are a great many others which would do well in Colorado gardens.



*Ferns are the basis of all shady border plantings.*

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## SUGGESTIONS FOR THE FLOWER GARDEN

By WM. H. GROSSMAN

**T**O me the flower garden is the finishing touch to any yard. It is the life, the color and many times the fragrance which quickens one's interest even as it livens a tailored and sometimes dull vista surrounding us.

There are many items which go into the production of a successful garden. As with so many things concerning our physical lives nature is constantly working with us, helping to modify our errors and blending others to an extent that enables all of us to achieve at least a partial success if we but put forth a medium amount of effort.

Plants are like animals, they appreciate good surroundings and now and then they demand a bit of food if they are to become robust and produce their valued blooms. Peat,

leafmold, and sand aid heavy soils, and the first two aid sandy soils.

Most plants grown for their blooms require full sunlight at least a good portion of each day in order to obtain best results.

The perennial is the backbone of most of our flower beds with annuals filling in to aid in supplying a continuation of color throughout the entire season. Of course many beds are composed entirely of annuals, but these plants must be replaced each year and so are relatively expensive unless one raises his own.

In contrast to the annual, a perennial is a plant which continues to live for more than a two year period. Many of us think of them as living indefinitely with little or no care. This of course is a grave error. All plants require a certain amount of

care if they are to do well. Regular cultivation, weeding, watering, and spraying or dusting to control insects and diseases make for a successful garden. A garden well cared for until midsummer usually carries forward the rest of the season with a minimum amount of aid.

A goodly number of perennials require digging and separation of their roots at intervals of three years or so. The newer roots usually found around the edges of the clump are kept, discarding the remainder. Chrysanthemums and daisies are examples of this group. Some perennials tend to be relatively short lived such as the carnation and Pacific Hybrid Delphinium, while others like the peony and rose may live for years.

Color in a garden is a series of blendings and/or contrasts. Many times when we fear a color clash but still wish to keep particular flowers, a wider spacing between the offenders and the introduction of white flowers between will solve our problem. White flowers are lifesavers and are even used in bouquets to great advantage. White flowers also bring out the colors of other flowers.

Bulbs supply the first color in my beds. I may march them in formal rows along my border and/or scatter them through the bed in groups usually containing an odd number of bulbs. As the season progresses the ground over these bulbs provides an excellent space for a border of annuals or a group of annuals used as fillers for color and bloom.

I like iris. A few clumps (not too large) scattered through a bed provide fine blooms and cut flowers. The German iris come first and later bloomers include the Siberian, Dutch spuria, etc. I enjoy seeing a blend of blues and purples furnished by the iris mingling with the yellows and

golds of daylilies or perhaps blends and contrasts with the different colors obtainable in the oriental poppies.

About the time that late spring merges with early summer the giant peony blooms come into being. Following their spectacular display, the phlox and daisies contribute greatly to the summer garden. Excellent additions and fillers are the delicate blooms of scabiosa, carnation, painted daisy, and where space permits the larger delphinium, daylily, veronica, Mocrheim Beauty Helenium, etc.

Mums furnish the bulk of bloom for fall. I like the taller varieties because they furnish fine cut flowers. Many of the more recent introductions bloom sufficiently early to miss winter's relentless grip and I feel that the garden lover is missing much if he confines himself to the cushion or azalea mum.

Asters also furnish a short but brilliant color display. However, they require a large garden to spread their considerable bulk in.

A neat and attractive border in my yard is composed of alternate plants of *Veronica incana* and *Sedum sieboldi*. Both plants are low and have grey foliage. The *Veronica* sends up attractive blue spikes in early summer while the *Sedum* is covered with delicate pink buds and blooms in late fall.

Many times it helps to place early bloomers, or plants having unattractive foliage following their blooms toward the back or center of the bed so that later bloomers and/or taller plants may cover the unattractive ones.

Sedums are good ground covers growing in sun or shade. To bloom well however, they need plenty of sun.

*Polygonum Reynoutria* is a fine



new ground cover but requires lots of sun to do well. It has delicate pink buds and blooms in the fall.

If you cut off the blooms of your delphinium and carnation before they begin to set seed you will usually enjoy a second though not such a vigorous set of blooms as the original ones.

Let me suggest that you treat your-

self, if you have not already done so, to the enjoyment, satisfaction, and physical exercise obtained through having a garden. If you make mistakes—so what? We all do, and a good bit of your fun will be in changing and improving as you go along. Moreover, personal taste plays an important part in a yard. If you like it, that is the main thing after all.

## DO YOU LIKE COLOR?

By OTIS LUSBY

**W**HY not consider Hybrid Oriental Poppies. Most of them bloom with Peonies or Bearded Iris, and a massed Poppy planting will surely steal the show from both.

The earlier varieties such as 18" double "Crimson Pom Pom" are open during the latter part of May—followed by 30" double "Salmon Glow," a salmon pink, and then for 3 to 4 weeks, a riot of color prevails, with a grand finale by "Spring Maid," a pink, saucer shaped 4 footer.

In between are many shades of red—watermelon pink, near yellow bi-colored, and white—plus various mahogany, mulberry and old rose. This latter class should be in shady loca-

tions to prevent sunburn, bring out their full beauty as well as lengthen their blooming period.

Oriental Poppies planted in August, when dormant, are easy to start, require no particular care and little water—they seem to be entirely free from insects and disease—and as to their life—well, I don't know, but some of ours have been in their present location 18 years and seem to become more beautiful each year. Perhaps, if planted where they received an excess of water, especially while dormant their life might be cut short.

They almost demand August or early September planting and should be planted so that their crown is covered by 3 inches of soil. When planting, water in thoroughly to eliminate air pockets and to bring soil in close contact with roots. After water has soaked away, mound up soil some 3 or 4 inches so there will be no hollow to collect water. No further watering is likely to be needed—unless the season is extremely dry such as the autumn of 1954. Usually top growth will appear in 30 to 60 days which will remain green over winter. Occasionally, no top growth will show up until Spring, but they seldom fail to grow, and



will usually give some bloom the spring after planting. However, the flowers are smaller and on shorter stems than on established clumps.

Some of the nicer reds are "Wurtembergia", "Glowing Embers", "Beauty of Livermere", "Australia", "Curtis Giant Flame", and double "Crimson Pom Pom".

Four Foot "Gorgeous" is an outstanding pink and the crepe paper "Helen Elizabeth" is another, as is "Spring Maid". There are many pink varieties.

"Ophir Gold" is a near yellow—"Wunderkind" a begonia rose, and the watermelon colors are favorites with many. Mahogany "Indian Chief" and "Curtis Giant Mulberry" also "Henri Cayeux" (old rose), are lovely when planted in shady locations.

One other unusual poppy is "Snow Flame"—a white with orange rim.

There are so many varieties that it would pay to see them blooming in June, select those desired and place an order for August delivery. They are not expensive—usually \$1.00 or less. Do not expect a large root, as most 2 to 3 year sizes are little larger than pencil size.

Poppy blooms are nice cut flowers—if—they are cut just as buds show color, the stem ends promptly charred over gas or electric burner, then immersed in cold water. After opening, they last for a week or so.

Hybrid Poppies, like all perennials after blooming should have seed pods removed to conserve vitality and to prevent undesirable seedlings, which have a tendency of reverting back to the old time orange kinds.

Poppies begin dormancy in July, leaving a vacancy which may be covered by later blooming perennials such as phlox or Lythrum.

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## THE CAMPANULAS

By HARRACENA NEWMAN

THE word Campanula to old gardeners first brings to mind, the pest *C. rapunculoides*. While the flower is lovely, it has persistent underground roots and is really a pest. It is commonly called the cancer-of-the-garden. Once you have it, it takes real work to eliminate the pest from your soil. New gardeners, beware of a gift of the lovely, tall blue spikes.

Why condemn the whole family because one acts badly? I love *Campanula persicifolia*, both the white and the blue forms. The bells are very large on two foot stems. They are wonderful for cut flowers. Even the peach-leaved foliage which grows close to the ground is attractive at all times. It increases but is very easy to control and a fine addition to any one's garden.

You would be captivated by the exquisite *C. glomerata*. The stems are not always straight so are especially adapted to floral arrangements. In this variety the flowers are clustered at the end of the stem making one

large cluster of unusual beauty in intense blue. Their leaves are the same as those of the pests, so be careful. They increase by runners but are very easy to control.

For the rock garden or a sandy place in your garden what flower could be more beautiful than *C. rotundifolia*, the true Harebell or Scotch Bluebell that we see in abundance in our mountains. They always bring out the Ohs! and Ahs! of the passersby.

The *Platycodon grandiflorum* is sometimes classed in this family. These are often called balloon flowers because of the inflated buds. They usually come in blue and white.

This large family of over two hundred varieties has members in the annual, biennial and perennial divisions. So you have a large selection to choose from.

I have just the perennials, perhaps, because I am a lazy gardener and like things to stay put and not have to be planted every year. Still even these must be divided, thinned out or perhaps just changed to a new location for more or better bloom. Choose the kinds you admire the most, for they are hardy in most of our soils, but prefer light sandy humus soil in sun or partial shade.

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## THE TREND IN 'MUMS

ROBERT O. PARK

**W**HILE chrysanthemums are one of the oldest of the cultivated flowers, the development of the hardy or garden mum has taken place only during the last fifty years and the last twenty-five years have seen the greatest advance.

The first goal set by the hybridizer in the United States was hardiness and the late Alex Summing was the one who introduced the Korean Hybrid. This strain produced many single and semi-double flowers two and three inches in diameter.

In England, with its mild climate, the breeders did not need the extreme hardiness and so concentrated on size and type of flower. Their labors have produced many varieties of outstanding beauty, such as—Alabaster, Bronze Supreme, Leda and Sutcliff. However only one out of fifty odd English are hardy with us and many of these are too late in their blooming period. They will all produce the first season but fail to survive a severe winter. The flower lover who feels that he or she must have more of the English would be successful in treating these varieties as an annual, that is, ordering new plants every spring.

Every commercial grower of Mums has a constant demand for large flowered varieties, many customers even asking for the English strains. So what are our breeders doing about it? To quote from a letter from Dr. E. J. Kraus, "The last three years I have been making crosses with the larger flowered English varieties and my hardies to improve the flower size and form of the latter and bush habit and hardiness of the former. I think I am getting a few good things." Dr.

Kraus has been very successful and our gardens have been enriched by Apache, Crown Jewel, Holiday, Lee Powell, and Malinda Brown, to name a few of his earlier blooming productions.

Others are working along the same lines and the beautiful 'Bird Series' has come out of the east. However this series is patented so the Colorado growers sort of lay off. To quote Dr. Kraus again "I have never patented anything and never shall—I don't like the restrictions imposed and do not have some nice things in my garden because they are patented—the main reason being that I can't be responsible for loss if someone comes in and digs up a plant."

So the trend in Mums is definitely toward size and quantity of bloom, together with hardiness and early blooming period. How many new varieties can we have? Well, the number is beyond limit for the possible combinations of color, flower type, petal type, growth habits, length of stem etc. is infinite.

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*Reserve the afternoon of Saturday, May 7, for the Plant Auction at Horticulture House.*

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## GLADIOLUS GLAMOUR

By RUTH LEWIN

THE gladiolus is rapidly becoming one of the highly prized flowers of garden lovers, as it is available the year 'round in the market and is easily grown at home. Careful development and breeding by the growers has made it possible to have thousands of named varieties, not only for the accent of color in the ornamental borders but for the purpose of bringing the flowers indoors for many types of floral arrangements. We have many to choose from; the huge exhibition type to the tiny miniatures; ruffled or fringed and twisted petals; solid colors, flecked or vein markings

makes this a highly prized flower for flower arrangements.

Pick the gladiolus when only the lowest bud is opening and day by day the flowers unfurl toward the tip and keep for days.

The foundation of a pleasing flower arrangement is a knowledge of art principles in design, some of which are a modified form of Japanese design. As in the Orient the religious symbolism has determined the course of floral arrangement. Their traditional style was not only design, it was more than that,—a philosophy depicting the three things of importance as heaven, man and earth.

The current trend in interior design is toward simplification in furniture, glass, china, rug patterns, etc.; however gladiolus lend themselves beautifully and gracefully in the traditional home where one might find provincial or colonial furniture or a combination of the modernistic. Flower arrangements no longer exhibit the massive abundance in which the past generations took such pride. There are numerous opportunities for designs in the homes of today. Some architects include a recessed niche for a floral arrangement. When planned as a focal point in a room such as a painting, flowers of long lasting quality such as the gladiolus are preferred.

Gladiolus can be combined with other flowers but are dramatic in arrangements by themselves, including their own foliage, and look their best in vertical patterns or line mass arrangements.

You can do surprising things with gladiolus if you are interested in design: the use of a pillar vase in harmonizing color—and the simple



use of the triangle made with gladiolus and their own leaves.

A low bowl has more of the feeling of mass, while a tall container will more likely accentuate line. Lines are dynamic and directional, forceful and demanding and make the eye follow where they lead. The flowers, leaves and container give a more pleasing effect if they seem unified. This can be accomplished if some of the material reaches out gracefully beyond the rim and a few flowers or a spray of foliage breaks low over the edge, the two are more likely to have the feeling of belonging together. The flowers in arrangements need not be exhibition specimens. There are little gladioli the gardener would call seconds; not too straight, with a few florets missing,—they can be arranged as a growing plant. Short sprays are ideal for use on coffee tables, and other small arrangements.

Gladiolus are ideal for use in massive arrangements in the churches. Avoiding the darker shades as blue and maroon and using the lighter colors with artificial lighting will enhance the beauty of the arrangement.

Good for the living room are subtle colors of gladiolus or harmonizing colors arranged in an asymmetrical triangle with their own foliage or salal foliage firmly held in place by a heavy needleholder and floral clay.

Spikes of varying lengths, form the design. The darkest spike separated in three units, placed at the base of the design for the focal point. The unopened buds are left on the spikes to give a lighter color and effect at the tips.

The Gladiolus are lovely in combination with their own foliage, however, other foliage can be used such as the rubber leaves, croton leaves, salal foliage, ti leaves and other foliage. Soak gladiolus overnight before arranging them. The ends will develop curves, and if you are smart, you will not try to make one that wants to go left, go right. Happy Gardening . . .!

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## NEW STATE PARK AND RECREATION BOARD

**P**ROSPECTS for a new State Parks set-up in Colorado now appear brighter than at any time in recent years, with the passage of H.B. 321. The Senate gave final approval on March 29 by a vote of 22-13, and the measure has now been approved by Governor Ed C. Johnson. The bill revises the 1937 law, which named the State Board of Land Commissioners as the State Park Board.

The new bill provides for a Park and Recreation Board, consisting of the President of the State Board of Land Commissioners, the Director of the State Game and Fish Commission, the Director of Public Institutions, the Chief Engineer of the State Highway Department, the State Director of Advertising and Publicity, and two persons interested in state park and recreation matters, who shall be appointed by the Governor. The Governor's appointees are to be selected from the ranks of organized labor and organized business.

The chairman of the board shall be appointed by the Governor. The chairman is directed to call a meeting of the board at least once every three months.

The board may acquire by gift,

purchase, or transfer from state agencies or from any department or agency of the United States, lands suitable for roadside picnic areas, recreational or park purposes and is authorized to control, develop and maintain such lands (state historical monuments excepted).

Otherwise, the new bill is not much different from the 1937 law. Nothing was done under this law—the board said there were no funds, but appropriations are not made unless some interest is expressed or a program is set up by the responsible agency.

The present board did appoint an advisory council, upon the recommendation of the Colorado Forestry & Horticulture Association on July 30, 1953. This council, with Prof. J. V. K. Wagar as chairman, made some recommendations.

H. B. 321 was prepared by representative David J. Clarke of Denver, with representative Richard Barton of Englewood as co-sponsor. In the Senate, Senator Cheever of Colorado Springs, sponsored the measure, also Ranger Roger of Arapahoe county.

Those who kept the bill active before the Legislature and who partici-

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pated in committee hearings included M. Walter Pesman, Geo. Kelly, Mrs. C. R. Enos and Fred R. Johnson of the Colorado Forestry and Horticulture Association; E. P. Romans of Englewood Park and Recreation Department, J. Earle Schlupp of the Denver Recreation Department; Willard Russell and E. S. Richter of the Colorado Springs Parks Department; M. R. Walter and George Williams of Pueblo Parks and Recreation Department; John Hart of the State Game and Fish Department; Ed Sampson of the Colorado State Chamber of Commerce; and J. W. Penfold of the Izaak Walton League.

A companion bill (No. 448) proposes an honor work program at the Colorado State Reformatory at Buena Vista. Warden Thomas has proposed a mobile unit—trucks and trailer—which will work out from the Reformatory on roadside picnic grounds. This bill, as it passed the House, appropriates \$38,000 to start this work, which can be productive and at the same time relieve the congestion at this institution. In the hearings it was brought out that the selection of the sites and type work would be handled by the state park director.

—FRED R. JOHNSON.

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## PRIMULAS FOR A SHADY SPOT

By DR. A. A. HERMANN

**W**ORDS seem inadequate to describe the emotions we feel at dawn as we begin our exercise in the "Lord's Garden", and at sundown the assurance that something worthwhile has been accomplished dispels all feeling of fatigue. There is neither tension and worry, nor fear and regret.

A garden gives opportunity for study and experiment in many suggested methods of propagating plants, of hybridizing to create new varieties and of skill in producing specimens of superior size and quality.

This spring our project is directed to growing the exotic primula which requires very rich soil and humus, shade and moisture.

We have faith to believe that in

spite of the dire predictions of water shortages, enough moisture will be provided to sustain the plants.

Primulas are native to and thrive best in high altitudes, and many varieties have come from valleys and glens high in the Alps and Himalayas, some at altitudes exceeding 10,000 feet. They are perennial and bloom early in the spring and again in the fall. Some have an exotic odor and the color range is very extensive.

Though they are very hardy, they still must be protected from parasites such as snails, slugs, red spider, etc.

We trust and believe that many other flower lovers will become acquainted with primulas and grow a few in the shady areas where other plants are reluctant to grow.

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VEGETATIVE REPRODUCTION. During the past week I received a letter from a reader asking the meaning of multiplication of plants by vegetative means. Since many other readers are apt to be interested also, the letter is answered here.

Among the very lowest plants no special organs of reproduction are developed, but most plants have them. There is a kind of reproduction by which a portion of the parent plant is set apart to produce a new plant, as when a strawberry runner produces a new plant, or when a willow twig or a grape cutting is planted and produces new plants, or when a

potato tuber (a subterranean stem) produces new potato plants or when pieces of Begonia leaves are used to start new Begonias. This is known as VEGETATIVE MULTIPLICATION or VEGETATIVE REPRODUCTION; a kind of increase which does not use special reproductive organs.

HELEN FOWLER.



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## A PEEK AT THE MAIL

**L**ETTERS continue to come in with good suggestions. The Editorial Board has already put into effect some of the proposals made by members. As is the case in any magazine, all of the features carried do not appeal to all of our readers. These letters give a cross section of views and will help the board in deciding on the make up of the Green Thumb. The following letters will illustrate the point.—Editors.

Dear Editor,

Concerning Mr. Johnson's letter. We are changing from a town to a CITY and have to be guided accordingly. People are just too busy doing things that possibly are not always worthwhile.

I have two suggestions and you have probably thought of them before. I see no reason why the Green Thumb could not be published every two months, January and February out on February 1st, and so on.

I would put a section in the magazine from home flower gardeners and appeal to our new suburbs where there are thousands of new homes. "A FLOWER GARDEN IN EACH YARD" and give them full details

in plain language, as how to plant, grow and harvest.

Perhaps, you could at first circularize these districts through "Patron" mail, where mail carrier delivers a letter to each house. It can't be too expensive for people are using it.

I have at least responded to the open letter, and wish you continued success in your undertaking.

JESSE R. WOOD.

Congratulations to your editorial staff. Each issue is super.

GRACE LIPPARD

Past State President  
Colorado Federated Garden Clubs.



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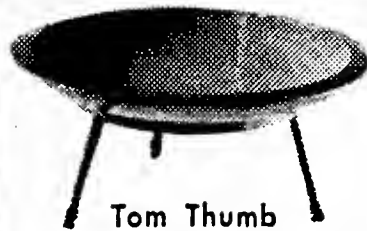


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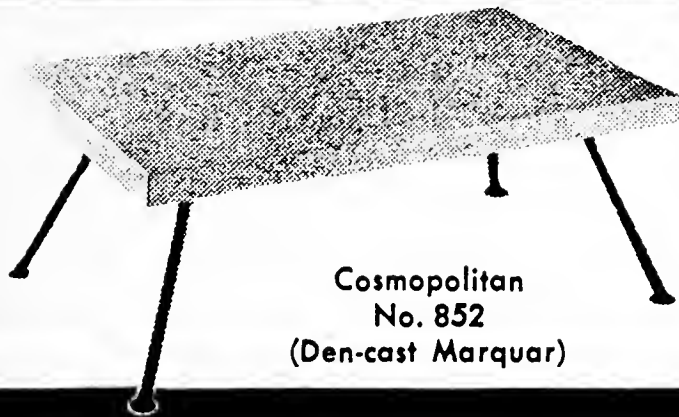
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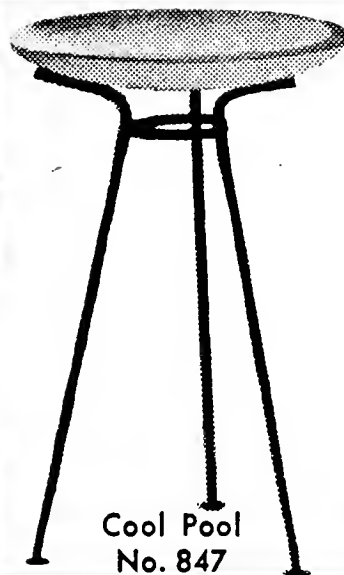
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# *The Green Thumb*

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June, 1955

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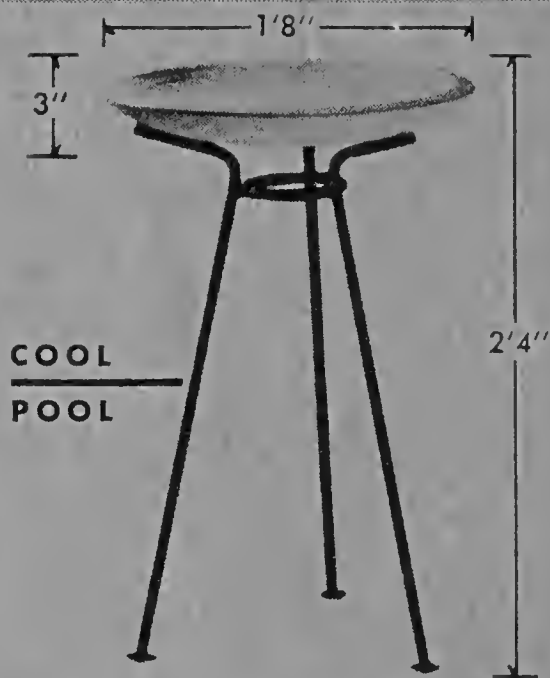
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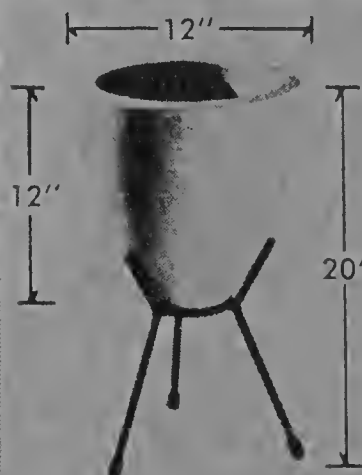


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# The Green Thumb

Vol. 12

JUNE, 1955

No. 5



## Colorado Forestry and Horticulture Association

Organized in 1884

*"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."*

### OFFICERS

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Secretary-Treasurer.....Spiro L. Nickolas

## “THANK YOU ALL”

A sincere thank-you to Mrs. E. H. Honnen and her committee, in conjunction with the Perennial Garden Club and the Garden Club of Denver for the splendid handling of the Gustavson lecture. Thank You! Mrs. Henry McLister for the excellent publicity.

THANK YOU ALL, nurserymen, seedmen, garden shop owners and private individuals for your generous donations to the annual Plant Auction held Saturday, May 7th at Horticulture House.

THANK YOU ALL, committee members, for helping to make the auction a success.

THANK YOU ALL, auctioneers and publicists for doing a fine job again this year.

And finally, THANK YOU ALL, patrons and friends of Horticulture House for supporting this annual worthwhile event with your interest of spirited bidding and your financial support.

## CALENDAR OF EVENTS

June 22—Garden Tours. Look for the announcement in your newspaper.  
June 26—Denver Rose Show, Ford Motor Company from 2:00 until 5:00 P.M. The Public is invited.

**HOURS AT  
HORTICULTURE HOUSE**  
8:30 to 5:00 P.M., Monday thru Friday.

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1355 Bannock Street    •    Denver 4, Colorado    •    TAbor 5-3410



*Roses and Lilies Synonymous with June*

## MY NEIGHBOR'S ROSES

The roses red upon my neighbor's  
vine

Are owned by him, but they are also  
mine

His was the cost and his labor too,  
But mine as well as his the joy, their  
loveliness to view

They bloom for me and are for me as  
fair

As for the man who gives them all  
his care.

Thus I am rich because a good man  
grew

A rose-clad vine for all his neighbors  
view.

I know from this that others plant  
for me,

And what they own my joy may also  
be,

So why be selfish when so much that's  
fine

Is grown for you upon your neigh-  
bor's vine?

A. L. GRUBER.

## MY NEIGHBOR'S REPLY

Your neighbor, sir, whose roses you  
admire,  
Is glad indeed to know that they in-  
spire  
Within your breast a feeling quite  
as fine  
As felt by him who owns and tends  
that vine.

That those fair flowers should give  
my neighbors joy  
But swells my own, and draws there-  
from alloy

Which would lessen its full worth,  
did I not know  
That other's pleasure in the flowers  
grown.

Friend, from my neighbors and this  
vine I've learned  
That sharing pleasure means a profit  
turned ;  
And he who shares the joy in what  
he's grown  
Spreads joy abroad and doubles all  
his own.      AUTHOR UNKNOWN.

### DENVER GETS LARGE NEW ROSE GARDEN

If, at any time, you are in the vicinity of Denver's City Park, you will be greatly rewarded to stop in and note the great strides which have taken place during the past season in the way of a new rose garden.

This garden, which is among the first developments in connection with the establishing of a botanical garden in Denver's City Park, already contains over three thousand five hundred everblooming roses, principally hybrid teas and floribundas. It also has some of the new group of roses known as grandiflora. This garden, when fully developed will contain between six and seven thousand roses and will include all of the recent All-American Rose Selection varieties as well as all of the more desirable recent introductions of patented roses, along with the hardier and more desirable of the old favorites of many hybrids and climbers as well as the various specie types.

The large main garden is directly west of the City Park Museum and for the most part the roses are planted in long beds with fifty plants to a bed and usually there are twenty or thirty plants of each variety. A large grass panel extends down through the center of the garden and grass paths

five feet wide separate the rose beds which form each quadrant of the garden.

In addition to the large main garden there will be a number of smaller, back yard type of gardens which will demonstrate by actual use what the average home owner can do in the way of developing a beautiful garden of roses in his back yard.

It has only been in the last twenty years (and even more particularly in the last ten years) that gardeners in the Rocky Mountain region have fully realized that this climate is favorably suited to the satisfactory growth and development of fine roses. During these years gardeners have learned how to overcome many of the former obstacles and perhaps more important than this, new introductions have been found to be hardier and more disease resistant. The point has now been reached where any gardener can succeed with roses without any special "Know How". Simple rules of good gardening are all that is necessary. Today the Denver area and many other parts of the Rocky Mountain region are in a position to compete with Portland and the Pacific Northwest as a land of beautiful roses.

—Extracts from Bulletin of the American  
Association of Nurserymen.



## SEASONAL SUGGESTIONS FOR JUNE

1. Prune early-blooming shrubs as soon as they have finished blooming. But prune properly, and if the correct method for each kind is not known, call Horticulture House for advice.
2. Water properly (within the limits of water availability). DO water *thoroughly* in the places that are irrigated, but DO NOT waste water by light sprinkling over a wide area.
3. Be sure your mower is set high enough to cut your blue grass no closer than one and one-half inches. (When grass is cut too short the sun gets to the soil and heats it more, the grass plants get weak, and weeds can get a start.)
4. A good nitrogenous fertilizer, applied early this month and watered in thoroughly, will improve the color and vigor of most lawns.
5. Now is a good time to get after broad-leaved weeds with the chemical weed killers. Be sure to observe the cautions about proper strength, method of application, etc. to get the best results without also killing other garden plants.
6. Any tender species should be safe outside now at altitudes below 6,500 feet. So warm-season vege-

tables such as tomatoes, peppers, and beans can be started in the garden now. Also tender ornamentals, including common house plants, can be put outside, but it is best to provide protection against strong wind and direct sunlight past noon for most of the plants that have been indoors.

7. When setting out geraniums, if the plants are large enough, and if house geraniums are wanted for next fall, take off stem cuttings and start them now for nice plants in early October.

Question: The leaves on some of my Lilac bushes are turning brown. What causes this? —S. M., Denver.

Answer: They may have been injured in moving, lack of sufficient water, or you may have used too much fertilizer.

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## GEORGE W. KELLY

**T**HIS issue of the Green Thumb is dedicated to George W. Kelly, whose resignation has been regretfully accepted by the Board of Directors. George and Sue are operating a new garden shop at their home on S. Santa Fe Drive.

Mr. Kelly has devoted many years to horticulture and conservation, and his knowledge of Rocky Mountain Horticulture is "authority". For this outstanding accomplishment he was presented the Johnny Appleseed award by the Men's Garden Club of America in June 1954.

As a token of appreciation for the many years of service, and the unselfish help he gave in developing our organization, the Board of Directors voted an honorary life-time membership for Mr. Kelly in our Colorado Forestry and Horticulture Association. The Board, and all the members of the Association wish for George and Sue success and happiness in their new venture.

## PERENNIALS

By WM. H. LUCKING

**LYTHRUM MORDEN.** Seeing this perennial growing at Congress Park last summer, I could not help but take a great liking to it. One of the caretakers at the water plant next to Congress Park had a number of these plants growing in his flower garden. It was introduced by the Morden Expr. Sta. in Canada. It grows about three feet tall on long wiry stems, stays within bounds, blooms from July until frost. The flowers are borne on long stems and are a very pleasing pink. Do not confuse this plant with the old type of Lythrum. The old type Lythrum blooms in July, then looks rather unkempt the rest of the season. Lythrum will grow in most any soil, but prefers a sunny moist location. If you are looking for background in your flower garden and like pink, grow Lythrum Morden.

**ASTER FRIKARTI.** Another perennial that has great merit. So many perennials bloom once in a season and a short period at that. Not so with Lythrum Morden and Aster frikarti. When either of these perennials start blooming you will have some bloom from summer until frost. Then too, you are getting bloom when most perennials are past their blooming stage. Aster frikarti grows about two and one half feet tall. If given room to develop, it will grow into a nice round bush, has blue flowers the size of a dollar. It likes a sandy loam soil in a sunny location.

Of all of the Asters, Aster frikarti is my favorite. If you are growing perennials, grow Lythrum Morden and Aster frikarti.

# WHAT DO I WANT TO PLANT THIS YEAR?

By SUE KELLY

**T**HIS is, no doubt, the most *asked* question in the gardening world. For the new home owner with a full back yard and a front space also, to plant, there is fun galore and lots of tired muscles! You have your basic planning done—quite a number of flower beds stare back at you with nothing, absolutely nothing, in them but good black earth (I hope)!

Annuals, of course, will be on your list, and if you take the Green Thumb, you'll find the April issue pretty thoroughly covered that subject. Now, what about perennials and bulbs—for these hardy plants will be the basis of your flower groups for years to come. Make a list such as the one I shall make here—check catalogues and garden books for season of bloom, planning to have something in bloom from earliest spring until killing frost. This same plan may be followed by those of you who have established gardens, but which need re-doing or re-planning.

## EARLY FLOWERING BULBS

Snowflakes and Snowdrops—as the names imply, these come through the snow  
Crocus—spring blooming  
Colchicums—fall blooming crocus  
Scillas—tiny bell flowers  
Glory of the Snow (*chionodoxa*)—star-shaped white, blue and pink blossom  
Species Tulips

## LATE FLOWERING BULBS

Hyacinths  
Tulips—late varieties  
Grape hyacinths—don't forget the white and light blue colors  
Narcissus (daffodils)  
Lilies  
Tigridias (Mexican shellflower)  
Gladiolus

I would want some of each of the above named bulbs—and again, remember to check your books and catalogues for height and season of bloom!

## EARLY FLOWERING PERENNIALS

Alyssum (Basket of Gold)—I like the gray foliage all summer  
Hardy Pinks (Carnations)  
Trollius—globe buttercup  
Peonies—choose some single blossom varieties  
Balloon Flower—platycodon  
Doronicum—yellow daisies, but what daisies; to bloom with iris.  
Iris—all kinds  
Columbines—both varieties  
Blue Bells—*mertensia*  
Phlox—*subulata*, early creeping  
Phlox—*divaricata*, blue stars to plant with tulips  
Lupines—Russell hybrids  
Violets—red, white, and blue  
Bleeding Hearts—*dicentra*, both spring and fall blooming

## LATE FLOWERING PERENNIALS

Shasta Daisies—at least four varieties all very beautiful  
Hemerocallis—daylilies  
Pentstemons—wild and cultivated  
Babysbreath—*gypsophila*  
Delphinium—choose some hybrids and some of the smaller varieties  
Tritomas—whites through reds and oranges  
Veronicas—blue spikes of medium height.  
Funkia or hosta lilies—both for foliage and bloom  
Liatris—blazing star, these bloom for an extended period  
Fall Asters—dwarf and tall  
Chrysanthemums—cushion varieties and fall blooming  
Phlox  
Globe Thistle—blue seed pods make excellent dry material

Having made these lists, I would make a diagram of the flower bed, and then place these plants in their respective positions—all to scale so you won't be over-planting—small things in front, then medium, and tall in the background. Having made your sketch take it outside to the garden—take plant



*Tigridias, commonly called Mexican Shell Flowers*

stakes and label them as you set them in the bed according to your plan. Have you allowed enough space for the full development of the plant? Your first reaction will be that you haven't enough plants, but remember those plants will grow and thrive and be quite a number of times larger than your stakes—so be on the cautious side and don't over plant. Leave the stakes there until everything is planted, even if its two years from now!

Just *talking* about perennials and bulbs gives you a feeling of incompleteness for these should be fitted in among your shrubs and roses, around built-in features, pergolas, patios, pools or the garage and incinerator (which you are trying to screen).



# PLANTING AND FERTILIZING OF ROSES

By CLYDE E. LEARNED

**T**O PRODUCE roses of superior quality and in any great numbers over a period of years, it is essential that some form of nourishment be added occasionally to the soil. The methods followed and the types of fertilizers used vary with the individual growers.

In planting a rosebush the soil first acts as a container and support to hold the bush in place. The soil then functions to supply much of the needed food for its growth and development, acting more or less as a manufacturing plant where many activities take place with the aid of moisture, aeration, heat, and various organisms. Often it is found that the soil is either too heavy or too light. In such instances a change in texture will be beneficial—sand, cow manure, or peat moss, or all three, for the heavy soils, and humus and a little clay for the lighter textured soils.

Many of the needed foods are available in the average garden soil; some are on hand in limited amounts, whereas some are entirely unavailable. Most people appreciate that there are two schools of thought in the use of fertilizers—one group being of the opinion that all plant foods should be of organic origin, whereas the second group is just as firmly convinced that inorganic foods are more effective. Undoubtedly both organic and inorganic fertilizers are needed and are recommended for use in the normal garden. The most effective method of building up a poor soil is to incorporate organic matter in the root area prior to planting the bushes. Surface applications are also beneficial.

Organic fertilizers have their source in animals and plants, examples be-

ing cow manure, bone meal, and the well-known compost pile. The use of organic fertilizers is a fairly safe process, as overdosing ordinarily results in no damage.

Inorganic or chemical fertilizers are of mineral origin and include such commercial products as Ammonium Sulphate, Ammonium Phosphate, superphosphate, Vigoro, Vertagreen, as well as many others.

In the growing of roses these organic and inorganic fertilizers, together with water, heat and air, do their part in producing a rose. Because of their high solubility, inorganic chemical fertilizers in general are much quicker acting than organic fertilizers. They therefore must be used with caution, as overdoses may cause severe injury.

There are about 18 chemical elements that are considered essential to the growth and reproduction of green plants. Growing rose bushes actually require carbon, oxygen, hydrogen, nitrogen, or combinations of these, such as water and carbon dioxide. When the fertilizer contains the elements of nitrogen, phosphorus and potash, it is referred to as a complete fertilizer. In addition to these major elements, other minor or trace elements are needed in smaller amounts. These trace elements include iron, copper zinc, boron, sulphur, calcium, manganese, and possibly iodine, cobalt, chlorine, fluorine and silicon. It is said sometimes that the use of a balanced plant food is wasteful because the soil may not need all the elements contained in many of the balanced plant foods. Although this may be true in some cases, it is probable that inasmuch as roses are one of the hungriest plants in the garden,

the safest procedure is to give them lots of nourishment.

The part these major and minor elements play in the growing of roses includes the following:

*Nitrogen* is found in every living plant and is essential for growth. It is associated with stock, stem and leaf growth. A deficiency of nitrogen results in stunted growth and yellow foliage, whereas an oversupply often causes root injury. To prevent burning, keep nitrogen fertilizers away from direct contact with the bush.

Nitrogen is found in both organic and inorganic fertilizers. The organic fertilizer cow manure is roughly estimated to contain one-half percent nitrogen, one-fourth percent phosphorus; and one-half percent potash.

Of the inorganic fertilizers, it is probable that the best known is Ammonium Sulphate, also known as Ford fertilizer. This fertilizer is completely soluble, is quick acting, and contains about 20 percent nitrogen. Other nitrogen fertilizers include Ammonium Phosphate, with 10 to 16 percent nitrogen; and Ammonium Nitrate with about 30 percent nitrogen. Ammonium Sulphate and Ammonium Phosphate are usually applied at the rate of about two pounds per one hundred square feet. Ammonium Nitrate, which contains about 30 percent nitrogen, is applied at approximately one pound per one hundred square feet and should be applied with caution. As nitrates are very soluble in water they readily leach from the soil, especially sandy soils.

*Phosphorus* acts as an energizer and produces greater root development, stronger stems, and helps to produce good blooms. Many growers consider phosphorus to be the element which is most likely to be deficient in the soils of this region.

Phosphorus is found in both organic and inorganic fertilizers. The more common organic sources are fish, blood and bone meal. Although bone meal is a first-class fertilizer, it is very slow acting and gives off its main constituent, phosphorus, only after a long period in the soil. The most available inorganic sources are superphosphate, calcium phosphate, and ammonium phosphate being much cheaper and quicker acting than bone meal.

*Potassium* aids root development and strengthens and conditions the rose to ward off disease—acting more or less on the rose as vitamins do on humans. It also improves the color of roses. The organic sources are wood ashes, cottonseed meal, and ground tobacco stems—the latter containing from four to nine percent potassium. The more important inorganic sources are muriate of potash and sulphate of potash. Both contain between 50 and 60 per cent potash.

Roses are partial to relatively heavy clay loam or soils rich in potash. However, most of the clay soils in the vicinity of Denver are rich in potash and usually do not need much of this element added.

The functions of the lesser or trace elements are largely indirect and aid in chemical changes. Calcium or lime is used to neutralize acid soils. Sulphur is used to improve alkaline soils and appears to improve plant growth; and iron is necessary for the production of chlorophyll.

Cow manure furnishes some plant food; however, its chief value is to improve the texture of the soil; improve water-holding capacity; and improve aeration. The actual plant-food value of manures is low. Peat, although adding no nourishment value, does improve the texture of the soil.

Undoubtedly some soils do not need certain elements, whereas others do. However, plant-food manufacturers have incorporated many elements in their fertilizers in an attempt to build up a balanced plant food.

In using chemical plant foods, it should always be borne in mind that they are highly concentrated materials and that frequent small doses are more desirable than large single applications.

The fertilizer laws of this country require that the manufacturers indicate the contents on the bag or package. The figures indicate the percentage of the big three—nitrogen, phosphorus and potash; thus a 6-10-4 fertilizer like Vigoro put out by Swift means that every one hundred pounds contains six pounds of nitrogen; ten pounds of phosphorus; and four pounds of potash. Although a 6-10-4 fertilizer might be a balanced plant food for some soils and crops, it might be necessary to have a different ratio for other plant growth.

Vertagreen put out by Armour is a 5-10-5 fertilizer, whereas Milorganite put out by the Milwaukee Sewage Commission is a 6-3-0 fertilizer and is rated high as a grass feeder.

Many rose growers are very enthusiastic regarding the benefits to be derived from foliar feeding. In this region, the most popular of these foliar fertilizers is Rapid Gro which contains 23 percent nitrogen; 21 percent phosphoric acid; and 17 percent potash, together with minor elements.

Recent investigations made under the wing of the American Rose Society indicate that the relative acidity or alkalinity of soils has much to do with the growth, foliage and blooms of rosebushes. Experiments indicate that roses do not like either

a strong acid or an alkali soil, but do much better in neutral soils or a soil with a pH of about 7. The pH scale is an arbitrary gauge used to indicate the degree of acidity or alkalinity of a soil. By using this scale one determines whether the soil is "sweet" alkaline or "sour" acid. Soils of from 1 to 6 are acid; 7 is neutral; and 8 to 14 are alkaline.

In planting and fertilizing roses, the following procedure is suggested:

During the preceding fall or in the early spring, at least a month before the roses are received, dig a hole about 18 inches in diameter and from 18 to 24 inches deep. Mix the earth taken from the hole with a mixture of about one-fourth cow manure and one-fourth peat moss. To the mixture add two to four handfuls or about one-half pound of commercial fertilizer such as Vigoro or Vertagreen. If the soil is a real tight clay, the addition of sand may be beneficial. Backfill the hole and make a hill of the excess material. Of course here is always the possibility that the material taken from the hole is so poor or sterile that it may be desirable to add more fertilizer, or, in extreme cases, throw it all away and purchase topsoil for backfilling the holes.

When the roses are received, repeat the excavating process to a depth sufficient to plant the roses. Spread the rosebush roots by building a conical mound in the bottom of the hole for support and then backfill the hole, using a baseball bat or something similar to tamp and compact the earth around the roots. Water should be added to settle the soil and remove air pockets. A decided effort should be made to prepare the soil properly before and during the initial planting, as it is not feasible to materially improve conditions around

the roots after the bush has been planted.

Between the first and the 15th of May or after the roses appear to be established and have put out a few sprouts, apply a surface application of cow manure and commercial fertilizer which is lightly cultivated into the soil. Apply a second application about a month later or about the middle of June. A third application about the first of August might be desirable.

For these various applications, the cow manure is spread to about one-half to one inch in depth and the commercial fertilizer at the rate of one to two handfuls or about one-fourth pound per bush. Roses like lots of cow manure, which should be kept away from direct contact with the canes of the bush. After the applications are made, soak the ground with water.

Most rose growers recommend that no fertilizers should be placed after the middle of August, as to do so may promote late growth that is easily winter-killed.

The spreading of a mulch of manure or composts aids to maintain fertility; keeps the temperature of the ground cooler during hot weather; and also conserves moisture and reduces surface evaporation. There is not much question that careful preparation of the ground makes for better roses and more of them.

If possible, also try to learn something about soil chemistry, for there is such a thing as killing a rosebush by over-attention and an excess of fertilizers, spraying and cultivating.

### From Dr. Gustavson's Lecture:

"Give the people something to conserve, and they'll conserve"

*(Swedish saying)*

"The American culture depends on basic energy. American scientists have spent much time on applied research, and we are getting weak on basic research; if this continues we'll lose our front rank in science. We must husband research together with other resources."

Modern plant research can perform miracles. As an illustration, Jeffrey pine, which is not susceptible to pine beetle, as is the Ponderosa pine, is now being crossed with it. This cross makes possible an economically important timber tree which is resistant to the disastrous pine beetle.

Through the discovery of "tritium",—heavy hydrogen,—it is now possible to determine the age of ground water. A well in Nebraska was found to contain water fifty years old. Another check in Urbana, Illinois, found water at 300 ft. depth to be 100 years old. If we use up ground water at a rate exceeding its restoration, it may take decades or centuries to restore it.

A modern type of "dump" might result from accumulating radio-active waste products in "outer space". This, you might call posterity's improvement on the "Kleenex bush".

Our good old sun can be counted on for practically unlimited supply of heat and other energy. But let us not use that as an excuse for squandering present sources of energy.

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# WATER USES AND ABUSES

HENRY GESTEFIELD

**F**ROM my 45 years experience in the application of water into our otherwise bone-dry soil, by irrigation in one form or another, I have come to the conclusion that in order to properly irrigate or sprinkle our man-created plant life, we only need about one third of the water now used and misused.

## Prewatering and Deep Watering

Natural rain and snow usually provides enough water during the dormant season of plants to soak down to the naturally moist sub-soil, if these things have had deep watering previously.

By applying additional water just before the growing season this contact could be made with the moist subsoil and much water and time could be saved during the growing season. The plant's feeder roots would be trained to root down much deeper and so would be able to survive long drouth spells, and by getting used to longer intervals between waterings much water could be saved during summer.

Pre-watering methods also produces much healthier growth as the surface of the soil stays warmer with infrequent deep watering than with the usual 3 times a week sprinkling. Many irrigated agricultural areas practice this pre-watering system in starting new crops, such as alfalfa.

Through deep watering methods we force the roots of plants deeper into the subsoil where they also benefit from the additional minerals often found there.

## Abuses and Misuses of Irrigation

Applying water at a greater rate than the soil can absorb it even for a short time is extremely wasteful; often the losses by run-off amounting

to 50%, and since penetration is very shallow another 40% may be lost by evaporation in our very dry air.

Too frequent waterings, especially during afternoon and early evening chills the otherwise warm soil and slows up plant growth.

Watering soil already wet is not only wasteful but makes sour and unproductive soil. It can also bring to the surface excess alkali, which is sometimes overabundant in the sub-soil.

Shallow watering causes shallow root systems and these may be severely damaged during the dormant period or in extremely hot weather.

## Preparation For A New Lawn

After the area to be planted is properly graded, (see Mr. Pesman's story in a recent Green Thumb) properly manured (5 yards for a lot of 25 by 40 feet) and well worked up to a depth of 8 to 12 inches, then shallow furrows should be made on the contour about 2 feet apart. Fill these level ditches several times with water and let it soak in until the soil and subsoil is saturated. The water put into soil by deep pre-watering is not a loss but stays there to help the plants planted later.

As soon as the top soil is dry enough to be worked, relevel the area leaving a half-inch of loose soil as a seed bed. Be sure that your final grade is 1½ inches or so below the level of walks, drives, patios and curbs so that later waterings will stay where it is needed rather than run off on to the concrete.

Pre-watered areas should never be rolled or packed as this watering settles the soil all that is needed.

One half inch of fine mulch evenly applied will assure a fine stand of seedlings in one third less time and "watering-up" is unnecessary, except a light sprinkling when windy. The mulch will bring the ground moisture to the top every night.

### Before Planting Trees

Holes dug for trees, shrubs and perennials should be filled with water three times and let soak to insure future supply of water and deep root penetration. Also it is advisable to place a few inches of sand or gravel in the hole. With this subsoil moisture supplied in advance and the loose soil around the roots thoroughly wet down it should not be necessary to water again for several weeks, and it is not necessary to leave a "bowl" around the trunk of the tree. It would be better to mulch around the tree and later leave a trench out around the outer edge of where the feed roots are growing.

### Water Penetration For Old Lawns And Large Trees

To get deep penetration of water on old or sloping lawns, remove an 8 inch disc of sod, dig holes 2 to 4 feet deep with a post hole digger, fill holes several times with water and let soak away, then fill to within the thickness of the sod with coarse sand or gravel and replace the sod. Holes may be 6 to 8 feet apart over the difficult area.

In the same way holes may be dug to give deep water to large trees, but do not make the holes near the trunk of the tree. It is more effective to make them under the far spread of the branches where most of the new feeder roots are growing.

Terraced lawns should have these gravel-filled holes every four or five feet starting at the upper edge where the slope starts and dug deeply

enough to reach to the bottom of the slope.

More half circle sprinklers should be used at the edge of lawns to prevent runoff onto walks and into gutters.

When a THOROUGH watering is given as described, once a week is enough for lawns, four or five times a year for trees, once a month for shrubs and every two or three weeks for perennials.

Remember that water travels one third faster through moist soil and the only water losses in deep watering are the 5 to 10% by gradual evaporation. Prewatering and deep watering of 18000 trees and shrubs and 200 acres of lawns at Fitzsimons Army Hospital over the last seven years has cut the cost of watering in half and we have never lost a square foot of lawn from drouth, even though the water is shut off from October 15th until April 15th.

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## HAVE YOU NOTICED?

Have you noticed the trim, orderly appearance of the grounds at Horticulture House? Thanks, to Mrs. Garrey and her gardener, Mr. Jerome Neuhausel. They came down on a Thursday morn to work—picking up, raking, trimming and fertilizing. In a matter of a few hours the garden began to take on that "well kept" look.

We need a grounds Committee and some volunteer help here. We do have many nice plants that should be marked, sprayed, and trimmed. Our yard is small and with a minimum of care we could truly exemplify the aims of the organization. This little yard should be an invitation to the passerby—a spot of beauty surrounded by the commercial world. Any volunteers?

## DR. R. G. GUSTAVSON LECTURES

ON April 20th, 1955 friends of Horticulture House had the privilege of hearing an unusual lecture at the Phipps Auditorium.

Dr. Reuben Gustavson, distinguished scientist and scholar, spoke on Water, Energy and Population, a timely subject. His lecture was jointly sponsored by the Garden Club of Denver, the Perennial Garden Club and Horticulture House.

Dr. Gustavson made no charge for his lecture so that all the proceeds from the sale of tickets were divided equally between Horticulture House and the Denver Botanical Gardens Foundation.

We gratefully acknowledge this most generous contribution to our two organizations.

Reuben G. Gustavson was born in Denver, Colo. He is remembered at West High School as a student of unusual ability and of many and varied interests.

He graduated from the University of Denver at a time when a number of devoted scientists taught there and he himself became a member of the faculty of the Chemistry Department on his graduation.

While teaching here he continued

his work for a Doctorate from the University of Chicago. His interest at this time was research on Sex Hormones.

After receiving his Doctorate from Chicago, these researches were continued at Denver University until he became one of the foremost authorities in the world in his subject.

He left Denver University to become head of the Department of Chemistry at the University of Colorado in Boulder and, while there, he was also, for a time, acting President.

From Colorado he went to the University of Chicago to become Vice Chancellor and Dean of the Faculty there.

He was then called to be Chancellor of the University of Nebraska where his high imagination and aspirations for the University showed in every Department, with salary increases for the Faculty and a new conception of the integration of a University and its service to the community.

He is now President and Executive Director of Ford Foundations "Resources for the Future," with headquarters in Washington.

Our salutations and gratitude to Dr. Gustavson.

—ANNA M. GARREY

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## PINK IRIS—A COLOR BREAK

RICHARD D. HALL

EVERY once in a while we hear of an entirely new color appearing in some flower — a so-called color break. A most interesting example of such a color break is the pink color in the tall bearded iris.

The varieties of native iris in Central Europe, Asia Minor, the Near East, and India out of which our present Tall Bearded Iris were developed showed lavender or purple, and yellow as the most pronounced colors, with white, blue, brown, and cream appearing to some extent in some of the varieties. Nowhere among such iris, nor the hybrids developed during the centuries up to modern times was there any suggestion of a true pink color.

Somewhere around 1932, however, Dr. P. A. Loomis of Colorado Springs, a famous hybridizer, produced some iris seedlings containing a very definite pink color and tangerine beard. Though the flowers were small, the plant short, and the flowers of very light texture, this break was regarded at first as the forerunner of a strain of fine pink iris suitable for general garden use. Dr. Loomis, each succeeding season, crossed and recrossed these exciting new seedlings, as did many other hybridizers as they gradually were distributed for breeding purposes. The various flowers produced in this line were referred to as the "Seashell" pink iris, or by their SQ numbers allotted by Dr. Loomis.

To the great disappointment of Dr. Loomis and other hybridizers, however, it became apparent after 8 or 10 years of continuous work with this line that the genes for the undesirable characteristics as to height, size, substance, and branching

were linked in some manner with the genes producing the pink color. Over 20 years of plant breeding has thus failed to produce from that line any iris suitable for general commercial introduction.

During the late '30s, other hybridizers continued to work toward attaining the pink color through other approaches. Finally in the spring of 1942 my father, David F. Hall of Wilmette, Illinois was thrilled to find not just one, but eight to ten seedlings in his beds with definitely pink color. These seedlings came from the seeds of four different seed pods, each of which represented a different cross. However, they all had in common an ancestry involving several crosses with a pinkish lavender iris by the name of Morocco Rose that had been in commerce many years. In my father's opinion, the pink color must have come from recessive genes in that flower, whose slightly pinkish cast to its basic lavender color had caused him to work toward this possibility for about 8 years before the "break" occurred.

The first seedlings with the pink color in his garden were small, short, and not well-branched. However, they from the first had good substance, and the pink color in this line had no unbreakable "linkage" with traits of size, height, etc. as did the prior Seashell line. Thus, the 13 years since this break in color have seen a steady and impressive improvement in the size, height, substance, and branching of the pink tall bearded iris until today they are practically the equal of the best of such iris in the original colors. Also, during such period there has developed from this pink line a number



of apricot, cream, and peach shades that are not sharply different from the pinks, but most certainly do represent entirely new color variations in iris. Among the best of the truly pink iris now being widely grown are Cherie, May Hall, and Happy Birthday developed by David F. Hall; Pink Formal and Party Dress developed by Tell Muhlstein of Provo, Utah; and Mary Randall developed by Orville Faye of Wilmette, Illinois.

At this point the question naturally comes to mind: What will be the next color break in iris? For over 30 years hybridizers have been working along many different lines to produce a clear red tall bearded iris, but the goal so far has eluded them. Several good reddish brown, or reddish lavender iris have been bred, but despite much crossing and recrossing, the seedlings from such plants have produced no truer red color than that of their parents. Similarly, 13 years of breeding by many hybridizers of the line of pinks first developed by my father, and commonly known as the "Flamingo Pinks", has produced a deeper pink color than was to be found in the first seedlings, but has rather clearly shown that the pink color by selective breeding will never be so deepened as to produce a true red iris. However, I am confident that within the next few years this next color break will finally come, and cause the same rapid development of entirely new and beautiful iris as did the famous pink break.



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*Extracts from a Bulletin of the American Association of Nurserymen.*



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# YOU CAN HAVE GOOD LAWNS WITH LITTLE WATER

By MRS. FRED SHORTT OF BOULDER, COLO.

*Experiences in lawn survival from  
the 1954 drouth.*

**I**N MAY 1954 when it became evident that watering hours would have to be curtailed, we knew we would have to do some careful planning if we were to save the shrubs, flowers and trees.

We have two lots which gives us an area of 120 feet by 125 feet, all planted in lawn, shrubs and flowers, but we had no more watering time than we would have had if it had been only one lot. It was apparent that something would have to be sacrificed, so we decided it should be the lawn. We stopped watering the lawn about the middle of May, and put all the watering time on flowers, shrubs and trees. By July the lawn was a crispy, burned up lawn, that was dusty and seemed to be minus any signs of life, except for the green spots near the trees. We took colored pictures at various times during the season showing the stages. When almost all hope was gone of it ever coming out of it at all, we had a few showers in August and in no time at all, we saw a few green blades of grass, so all was not lost.

## Method of Watering

In previous years we have followed the procedure of giving the lawn a good thorough watering about once every two weeks. In very hot weather we would water every ten days. During that time, a few dry spots would appear between waterings, but not many. By not watering as frequently as so many do, the roots grow deeper and you have a much better lawn. This method does not work out so

well unless the lawn bed has been well prepared, which means a lot of work and expense, but it pays off after planting. You should remove poor soil, cultivate deeply, fertilize with good barnyard manure, and bring in plenty of good rich top soil, mixed with some peat moss. This all should be well mixed and pulverized and leveled for planting. Then buy good lawn seed, and your efforts will be well rewarded with a lovely lawn. One word of warning, do not start in the spring with frequent waterings and later decide to try the longer period between waterings because it will not work. In doing this the grass roots remain shallow and they need to be deeper to be able to use the longer spaced watering periods. Much water as well as work can be saved by using the less frequent watering method.

## Maintenance of Lawn

We leave the lawn clippings on the lawn because it serves as a good mulch and helps to conserve moisture. We are still old-fashioned and prefer good barnyard manure on the lawn in the early spring, later raking off the coarse part and letting the finer remain for mulch.

Some of you may find that the lawn seems hard and packed with no springiness to the soil. If so, the lawn needs aerating. There are very fine aerators on the market that are a great aid for a better lawn. By aerating, the fertilizer and water are aided in getting down deeper to the roots.

This spring it looks as though we have a very fine lawn, it is getting quite green, and seems to be free

from any weeds. The crab grass has never appeared, which we feel is due to a healthy lawn and less water, which does not encourage crab grass. We did have many doubts and worries last year when the lawn looked so dead, and wondered if it meant an entire new seeding and that work to be done over again.

Most of the shrubs were saved. Those requiring more water died, but that may be just as well as we want the more sturdy shrubs so there won't be disappointing gaps in plantings in later years.

So folks, don't worry about your lawn when sprinkling hours are limited. The lawn will come out of it, and it may be a blessing in disguise, as most lawns are given too much water, and it will save your time and energy as well.

### EVERGREENS FOR THE ROCKY MOUNTAIN AREA

More and more are evergreens becoming the backbone of home landscaping. They should be. Evergreens are beautiful; they give color in winter as well as in summer. And to residents of the Rocky Mountain Area where evergreens cover our mountain slopes from the foothills to timberline, these trees have an emotional as well as an aesthetic appeal.

What evergreen should we use? Any evergreen? By no means. Rocky Mountain Horticulture is different. Certain plants, whether evergreen or deciduous (plants that drop their leaves each fall) will *not* grow in Colorado, or, at least, will not prosper here, unless given special treatment.

If you buy from an established local nurseryman you will never have these unsuited evergreens foisted upon you. In this category are the Hemlocks, Sequoias, Redwoods, Yews, Arbor Vites, the true Cedars (i.e. the Cedar-of-Lebanon and others), Cypress, Falsecypress and most Larch trees. Only the expert should try any of these.

You should buy the following Colorado natives: Ponderosa Pine, Limber Pine; Colorado or Blue Spruce; Rocky Mountain or Scopulorum Juniper (often called "Cedar," though not a true cedar), Oneseed or Monosperma Juniper, Communis or Low Juniper (keep in all-day shade), Utah Juniper; and—most beautiful of all—White or Concolor Fir. Omit Alpine Fir—it prefers high mountains. Buy no exotic firs. The Foxtail or Bristlecone Pine of Colorado is superb, when established. It is sometimes difficult to transplant.

To these "fool-proof" natives add Austrian, Scotch and Mugho Pines; Virginiana Juniper (often called "Redcedar") Pfitzer, Savin—and especially Russian Savin—and Tamarix Junipers. For "creepers" under the low window use Sargent Juniper, Black Hills Creeping Juniper and Glenmore Creeping Juniper (a true dwarf).

—*Extracts from Bulletin of the American Association of Nurserymen.*

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Leveling  
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## FLORIBUNDAS ROSES ARE SO VERSATILE

**F**LORIBUNDA roses — a cross derived from polyantha and hybrid tea varieties — were introduced with much promise. They have fulfilled the promise. It did not take the rose lover long to recognize the many places this group could fit into. The general gardener, too, found how easily they fit into the scheme of planning and planting for continuous bloom. They are most adaptable to many locations and conditions that a hybrid tea will not tolerate.

Hardy and vigorous, some varieties are nearly overblooming. Each year new and interesting colors are added. For mass planting against shrubbery or evergreens they are unexcelled; as hedges you will adore them; grouped in the perennial border, they steal the show; or you may use them to accent your hybrid tea beds.

Else Poulsen, a medium pink, semi-double, has been performing for years in our perennial border. From the first showing of those bronzy-red leaves in spring to the last rose of summer, she complements her perennial neighbors. Early in the spring, we have the daffodils and tulips whose colors are intensified by Else Poulsen foliage. Pink lupines and blue Siberian iris smile favorably with her, and

Aster Frikarti peeks coyly over her shoulder from July to frost.

Mass plantings of one color are a joy to see. Try the reds or whites or reds and white with evergreens as a background. Try Fashion or Vogue or some of the coral-peachy tones with sandstone colored brick. Vogue planted in a corner with Ballerina petunias will draw many compliments.

Floribundas grow from 18 inches to 3 feet or more tall. You can have a low hedge or a tall hedge, in almost any color that you may wish. The beauty of a Floribunda hedge is in the constant bloom. The trimming is taken care of as you pick roses and cut off spent blossoms.

The newest All-American floribunda, "Jiminy Cricket", a beautiful coral-orange, is used to accent a bed of Golden Masterpiece, which is a yellow hybrid tea and is one of the outstanding beds in the Municipal Rose Garden at City Park.

So much could be written on combinations and uses of these, the versatile roses. Once you have started using floribunda roses, you will be eyeing each corner and spot of your garden, and planning for a planted arrangement of all summer beauty.

VELLA CONRAD.

### WHAT IS FAIRY RING ?

It's the fascinating but annoying ring which turns a dark rich green and then dies. It is extremely contagious and proper treatment is essential. In the first stages of the disease it is more easily controlled.

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## DENVER ROSE SOCIETY SIMMERS WITH ACTIVITY

ERWIN A. ANDERSEN

THE month of June is the month of roses. So, naturally, it becomes a busy time for rosarians who, during these spring months, have been busy pruning, planting, fertilizing, spraying, watering, and anything else that they think might help produce more and better roses. Why all this activity? First of all, so that they might have in and around their homes the enjoyment of these beautiful flowers. Second, so they might have some exquisite blooms to exhibit in the coming "Rose Show".

The week end of June 25th and 26th will be the climax for all Denver rosarians. A District meeting and Judging School on Saturday the 25th for members of the American Rose Society will be held at the Park Lane Hotel. The "Rocky Mountain District" includes the states of Idaho, Montana, Wyoming, Utah and Colorado. Mr. Everett O. Nord, District Director, promises a very fine program with some timely talks by excellent speakers on their subjects. Mrs. Roy T. Littlejohn, Chairman of the Committee in charge of the meeting and school, informs us that there will be a noon luncheon, a banquet in the evening and rose tours on Sunday morning for the delegates. The banquet is open to all rosarians but you have to get your reservation in. To really get the most out of this meeting and the school, you should be a member of the American Rose Society.

To many of the local rosarians, the Rose Show on Sunday, June 26th will be the big event. This show will be held at the Ford Motor Company,

2650 East 40th Avenue and will be open at 2 p.m. to the public. Mr. Clyde E. Learned, Chairman of the Rose Show Committee, reports that details of the rose show will be in the hands of members of the Denver Rose Society in the near future. Outstanding, of course, are the many beautiful trophies to be awarded for the outstanding roses of the show. These trophies have been donated by the following companies: Alameda Nurseries, Associated Nursery & Landscape Co., Barteldes Seed Co., Euser Seed & Plant Co., Green Bowers Nursery, Marshall Nurseries, Simpson Seed Co., South Denver Evergreen Nursery, Western Seed Co., and W. W. Wilmore Nurseries.

As a part of the Rose Show, Mr. Nord informs us that the J. Horace McFarland District Trophy will be offered for competition to members of the American Rose Society residing in the Rocky Mountain District. This special class of roses is to consist of three hybrid tea roses, one red, one pink, and one mixed color or blend. All three roses are to be of different varieties and each is to be entered in a separate container. Only one group will be permitted per person. The name of the winner each year will be inscribed on the plaque. It has been decided that a \$1.00 entry fee should be charged for each entry and that the exhibitor should advise the Memorial Trophy Committee at least one week in advance of the show of his or her intention to enter. Notice of intention and entry fee should be sent to Mr. E. O. Nord, 1500 Dahlia St., Denver 20, Colorado, and entries



must be at the show room by 10 o'clock a.m., June 26th.

Another new part of the Rose Show will be Class 125—Open to Garden Club Members only. Members of the Federated and Non-Federated Garden Clubs in and near Denver are eligible to participate and receive ribbons for their show roses. Qualified members of these clubs who are interested should contact Mrs. Ray Turnure, 40 South Osceola St., West 4-1302 for additional information.

The Denver Rose Show will therefore really be three shows in one—The competition for best roses by members of the Denver Rose Society; The competition for the J. Horace McFarland District Trophy open to members of the American Rose Society only; and the competition on arrangements open to members of the Garden Clubs only.

## The New All-Americas

The new 1955 flower winners are Prima Donna petunia, Toreador celosia or cockscomb and McKana's Giant columbine or aquilegia.

They have been tested in the 22 All-America trial grounds, in all sections of the country, and are chosen as the best of their kinds and colors to date.

They are generally recommended and seeds should be obtained from your favorite seed firm as long as stocks last this first year of introduction.

The 1955 vegetable winners are Seminole bush snapbean, Golden Beauty sweetcorn and Pennsweet muskmelon. The corn and melon are regional recommendations, for the northern states and Canada, while Seminole is an all-purpose snapbean for gardens anywhere.

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## ARID LANDS SYMPOSIUM

By GEORGE W. KELLY

THE International Arid Lands Symposium held in Albuquerque, New Mexico, and sponsored by the American Association for the Advancement of Science, UNESCO, and several other foundations, attracted several hundred of our top scientists and representatives from some twenty foreign countries. The theme of the meetings was "What Is the Future of Arid Lands", and after much discussion of such spectacular things as cloud seeding, de-salting of sea and waste water, immense dams to store runoff and methods of developing underground water, the consensus was that we would still have to depend on the less spectacular methods of adopting our arid lands to their capabilities through better use of our existing methods, particularly as to the proper preparation of soil, economical use of water and use of adapted plant material.

It was brought out that while the long distance prediction of weather, the obtaining of additional precipitation through mechanical methods and the making of usable water from salt or waste water might have possibilities, these things were all too experimental at present to be depended upon.

Some conclusions of the various experts present seem to point the way for future development:

"The emphasis now is not so much on making homes in the arid lands as to making money." "Dams are not the only answer to getting the best use of run-off water. Conservation of water on the upper slopes is equally important." "Abuses which waste water are man-made and natural. The man-made are more easily corrected."

"Get land in harmony with its best uses." "The water necessary to keep one person employed in agriculture, would keep 70 people employed in industry. Would it not be better to encourage industry in the arid areas and let others in more favorable areas for agriculture, grow the food and then exchange their products." "Except in foreign areas, such as China and India where there are no alternatives, is it economically sound to put water on arid lands at a cost many times the ultimate value of the land served?"

It was brought out that there are three sources of the all-important water to improve existing use or further develop these arid and semi-arid lands: 1) Run-off from adjoining areas of greater rainfall, such as the mountains, 2) underground water, and 3) direct precipitation, and that all of these sources of water depend on precipitation directly or indirectly. Run off can be regulated and conserved. Underground water is definitely exhaustable and the inducing of additional rainfall where needed is still in the experimental stage.

The best summary of the whole series of discussions was made by one member while visiting the Gran Quivara National Monument. He said, "This was the site of the first arid lands conference some 300 years ago when the Spanish priests attempted to civilize the Indians. The land was arid then and it still is."

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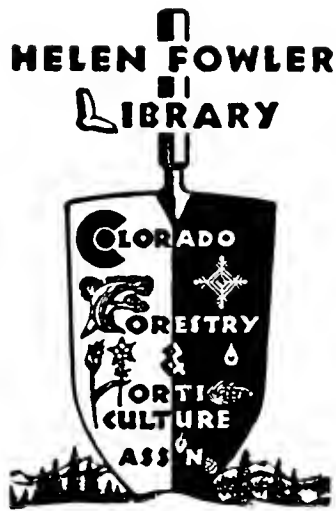
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## A Review of a New Book— Landscaping Plans for Small Homes

This book is edited by the expert who is also editor of **HOUSE AND GARDEN**—Ralph Bailey. His long experience with gardens and gardeners make him one of the outstanding authorities in America today. This is one of the most practical and versatile books ever published. I know of no other book in the library as helpful to the new home owner or even to the owner of an old home as this book.

There are as many as 90 complete planting schemes with 130 illustrations—think of that. If you do not like one of the plans, you have 89 more to choose from. Does your driveway need dressing up, or your service path need to be hidden or are you worried about those unsightly window wells, do you have an outdoor fireplace that needs planting? If your problem is too much shade or

what plants you should use in your perennial border—this book tells you exactly what to do. You are told how to create a wall garden, how to have a natural rock garden, how to make a pool and how to plant a terrace.

This is not a book for the owner of an estate as the title tells you. One of the best and most helpful features of the book is that each plan has its own key. Do you know what is meant by a key? A planting key indicates the proper plants, trees and shrubs to be used and also recites the quantities desired. And finally each one of these plans is based on an actual situation. Just how can you get along without this valuable book, **LANDSCAPING PLANS FOR SMALL HOMES**?

## T. H. Everett's Gardening Handbook

The Arco Publishing Co. of New York has just published a new garden Handbook of 142 pages by T. H. Everett which is easy to read, full of illustrations, concise and practical. Perhaps a larger proportion than usual will apply to our climate though the list of suitable plants is compiled for eastern conditions.

It is so simple and easily understood that anyone will get \$2.00 worth of good from it, and if it is supplemented with a good book or magazine from this area it should be very valuable.

Its scope covers all the phases of gardening including a discussion of design and planning, the selection of all kinds of plants and proper garden maintenance.

The author is horticulturist at the New York Botanical Garden and has had many years experience in gardening.

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## A PEEK AT THE MAIL

Dear Mr. Johnson:

Thank you for your open letter to members. Since there are so few actual meetings or chances for members to understand the problems of the Colorado Forestry and Horticulture Association, I am glad to know more about it since I appreciate the Green Thumb so much. I feel it gives me a chance to receive advice and information from Horticultural experts which I would not receive otherwise.

I like to read the Green Thumb each month but during the summer time it seems that I just don't get the whole issue read as I do in the winter time. Please don't discontinue it. I would not mind paying \$3.50 or perhaps \$4.00. Since I have so many trees to buy for my home which has no landscaping, I don't think I could contribute much more except enthusiasm at this time.

I don't feel that it is any too large and would enjoy perhaps, a few more pages. 35 pages is nice. You might cut down on Cherry's diary, but don't eliminate it entirely.

I like the short poems sometimes included because that seems to broaden my enjoyment of plants when I hear such beautiful expressions of their beauty. I would recommend eliminating the August issue

but not the November or February. Combining with another issue would be a good idea.

I am glad to have notes about the new books in the Horticulture House Library.

Sincerely,  
Alice Sharp,  
Denver 22, Colorado

Editor:

Yes, I do read ALL of the Green Thumb and have ever since I came to Denver. I became a member at once, I think it was '47. At the time, the numbers were reduced as you describe—its so welcome and appreciated coming 12 times a year, but rather than reduce the size it would seem best to me to combine the numbers as you did. I would be willing to pay \$4 instead of \$3 and regret I cannot do more.

The articles about trees are fine and needed. Oh yes, instead of drives for start parks and etc., which reduce the time and money we need for our magazine, let's see how valuable we can make it as a help to make all newcomers love Colorado as we do!

So here goes to say what just one old lady sees in her Green Thumb.

All the small suggestions are easily read and oh so valuable (like Mrs.



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Fowler gives) those small items stay with people who are just learning. Myself! My; no, I have been learning for 60 years or more, but as my horticultural education (if any) has been drawn from magazines, catalogs, and etc., as well as books and lots of hard field work, I know that I never would have waded through anything as long as the so-called diary which I almost weep to see taking up so much of what might be helpful. We know all those ideas are good, but so durn many words. I just figure that a novice would get confused and tired, but I felt the same way about the Weekend Gardener we had in the mag a few years ago. That was one thing that I did not get time to read. Now if I am the only member who looks at it this way you can be sure that I am wrong, and the rest of you right. But still, I won't have the time to read it.

I am not successful in growing things in this climate, but I want to end my days here if I never grow a thing. All in all, I think the magazine is very good and we do so need timely things in it for lots of people are beginning to learn about plants. Tree conferences and etc., are of value surely, but I cannot feel I should give you any more of my mind. I just know what was easier for me to learn in the way of articles. That's why I wrote what I did. If you will look over back numbers for a long time you will see what I mean by the small items. We are very fortunate to have men like Mr. Pesman and many others who share with us the results of years in this climate. I do not think of any feature that I would eliminate, save one. I think I must tell you how very grateful I was to Mrs. Andrew for the articles her husband had written. We read them where

ever found, and hold them up as examples of fine, inspiring writing. I often wish Mrs. Marriage would write about perennials. Please believe me I do appreciate all I have learned from the magazine.

With all good wishes,

IDA M. MILLER (MRS.)

Denver, Colorado.

## WALKING IT OFF

(A psychologist recommends a long walk to the point of fatigue as a remedy for fear, disappointment, or frustration.)  
Now psychology comes to the rescue  
Of the victim who worries or  
squawks;

The man worth-while isn't he that  
can smile,

But the fellow who takes long walks.  
'Tis folly to feel melancholy

Over warfare, or carfare, or dole

Since the man who escapes

Out of sorrows and scrapes

Is the fellow who goes for a stroll—

I've tried many matters to scatter

By walking, but I lag behind;

I haven't the key to this psychology—

My matter refuses to mind.

CHARLES S. ADELMAN.

## CORN FOR THE CORN PATCH

Once upon a time there were two little weevils. One was a great big, strong, husky, robust weevil. The other was a weak little puny weevil. He was the lesser of the two weevils.

A college professor was walking through the zoo reading Darwin's "Origin of the Species". A big ape reached out of his cage, took the book, and went back into a corner and sat down and started reading the book. He became so interested that he read for two and a half days without stopping. Then he threw the book down and said, "Well, I am my keeper's brother!"



## NEW MEMBERS

April-May  
DENVER

Mrs. Mary Cooper  
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Miss Mary A. Dodds  
Manuel Gomez  
Mrs. J. P. Horan  
Mrs. Robert T. Jones  
Mrs. J. W. Burket  
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Mrs. Louis N. Braun  
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Mrs. Lucian M. Long  
C. W. Sternberg  
Mrs. L. J. Gothberg  
Paul Kimball, M.D.  
Maxwell Parkhurst Aley  
Dorothy DeMatteo  
Mrs. Dorothy B. Teeple  
Raton City Library, Raton, N. Mex.  
Charles F. Lane, Littleton, Colo.  
D. P. Morrison, Jr., Englewood, Colo.

Mrs. Erle Cawthra, Sr., Broomfield, Colo.  
John L. Johnson, Henderson, Colo.  
William Kretke, Englewood, Colo.  
Marjorie B. Thurber, Wheatridge, Colo.  
Mrs. Philip Gorman, Littleton, Colo.  
Mrs. Ray R. Puleston, Ft. Collins, Colo.  
Mrs. J. O. Williams, Boulder, Colo.  
Emma Kuhn, Longmont, Colo.  
Mrs. Rose Dahlberg, Littleton, Colo.  
Mrs. J. B. Peacock, Omaha, Nebr.  
Miss Margarete Sonneborn, Colo. Spgs, Colo.  
Robert W. Blaha, Littleton, Colo.  
Phoebe F. Hayes, Englewood, Colo.  
Marie B. Jones, Golden, Colo.  
Mrs. L. J. Woodman, Englewood, Colo.  
Mrs. James E. Neleigh, Las Cruces, N. Mex.  
Boise E. Burton, Littleton, Colo.  
Mrs. G. B. Morrison, Wheatridge, Colo.  
Nida Temple, Englewood, Colo.  
Mrs. Dorothea S. Neville, Englewood, Colo.  
C. J. Donoghue, Colorado Springs, Colo.  
Littleton Clinic, Littleton, Colo.  
Elmer Sherriff, Lakewood, Colo.  
William Walmsley, Englewood, Colo.  
Richard F. Casburn, Monte Vista, Colo.  
Mrs. Frank R. Crotty, Colo. Spgs, Colo.  
J. R. Magoffin, Englewood, Colo.  
Mrs. Horbrook Mahn, Englewood, Colo.  
Mr. Ken Weiser, Golden, Colo.  
Carlyn E. Hopper, Englewood, Colo.  
Mr. Paul J. Elms, Arvada, Colo.  
G. V. Griffith, Pueblo, Colo.  
T. J. Nedbar, Pueblo, Colo.



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- 2. An association with hundreds of other green-thumbed lovers of plant life in the garden, in parks, on the farm and throughout the plains and mountains.
- 3. The use of Horticulture House, rebuilt and charmingly furnished by its sponsors for the use of members for meetings, classes, lectures and displays.
- 4. The enjoyment of its library and herbarium which contains an outstanding collection of books, current magazines, plates, pictures and specimens covering every phase of plant life.
- 5. The advice and counsel of a trained horticulturist to help solve all your gardening problems.
- 6. An opportunity to help in an organized way to preserve the natural attractions of your state for the benefit of you and others to come.

Members in all classes are welcome, but please consider taking out as high a class as possible. Since we have no support from any governmental agency, and since each member actually costs us close to \$6.00 all who can take out sustaining or higher memberships will help greatly to enable the association to keep up its valuable work.

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## WHO

Trims the Kleenex bushes?

Buries the beer cans?

Is wakened at dawn with the question, "Which way does this road go?" (There was a large sign by the door. If it had been a rattlesnake it would have bitten him.)

Gives out maps

Tells the story of the rocks, the trees, the birds and the wildflowers? (Every day the same story, with little evidence of appreciation.)

Answers the request for "a place to camp," and forty-seven others like:

"No, there are no rattlesnakes in the park."

"The Indians did once roam over this area, but it has been many years since any lived here, and if you did see one you would not be able to tell him from any other person."

Works for little pay, and his day has no limit on either end.

Has little money appropriated for the improvement or construction of roads or other necessary facilities at the same time that the heads of his department are planning the construction of unnecessary dams at the cost of a few billions.

Lives with Nature and takes part of his pay in its appreciation.

Sees beauty everywhere and spends his time trying to preserve some of it for future generations.

Knows the meaning of "wilderness."

Sees every day the samples of Nature "as is" that his department are trying to preserve.

Is forbidden to talk of his needs, so we who also appreciate his work must speak for him.

WHO? Who else but the devoted National Parks Ranger.

## WOMAN GARDENER HUNTING A HAPPY BOY

Most women who wear the gardening pants in the family, find that the assistance of a husky boy for help with some of the huskier gardening is desirable. Over a period of years of gardening, I've had many boys help me, so that now I've got to the point that I can almost tell by watching some neighborhood youngster a bit before I even ask him if he'd like to work for me, whether he'd be any good at our kind of work. In trying to analyze just what makes the difference in having a boy who is a joy to work with and in having one who is practically useless, I've just suddenly realized that the character factor involved is happiness. In thinking back over the boys who have been the best workers and a pleasure to teach, I find that all of the earlier ones are now happily married, and are content and well adjusted in their jobs; and that where the opposite was true when they were young boys, it is still true now that they are grown. My present yard boy is only twelve, the youngest I've ever had. He has the happiest disposition of all the boys I've known, an absolutely infectious smile, and is a perfect joy to teach—and he is the best worker of them all.

Daisy Hastings

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# *The Green Thumb*

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July-August, 1955

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# *The Green Thumb*

COLORADO'S GARDEN MAGAZINE



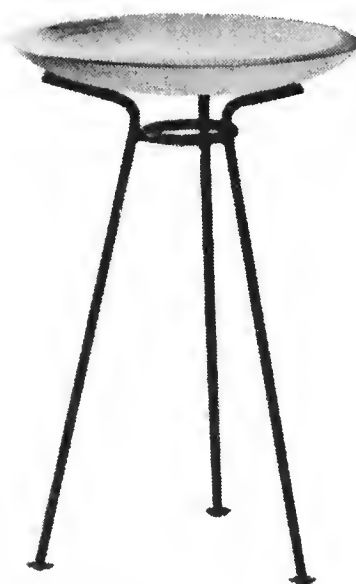
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# The Green Thumb

Vol. 12

JULY-AUGUST, 1955

No. 6



## Colorado Forestry and Horticulture Association

Organized in 1884

*"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."*

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Secretary-Treasurer.....Spiro L. Nickolas  
Editor.....Patrick J. Gallavan

Mr. and Mrs. Ray Turnure have consented to serve with the Editorial Committee. We are fortunate indeed to have them with us. Mrs. Turnure does outstanding arrangements, and Mr. Turnure is a photography fan.

We have had some very nice and unusual material submitted for this issue. We are always grateful for these contributions, and we feel sure that our members are going to enjoy Dr. Belknap's article with illustrations. Also, Mrs. Steele's "The Garden Makes It Home."

## HOURS AT HORTICULTURE HOUSE

8:30 to 5:00 P.M., Monday thru  
Friday.

## CALENDAR OF EVENTS

Aug. 17—Look & Learn Garden Visits.

Aug. 11 and 25—St. Anne's Garden Tours.

## THE COLORADO GLADIOLUS SOCIETY

The Colorado Gladiolus Society invites you to attend their Second Annual Show at Ford Motor, 2650 E. 40th Ave., August 7th from 2 until 6 P.M.

Featuring arrangements, corsages, as well as single spikes competing for blue ribbons.

If you don't like our Colorado climate,—just wait a minute.

PATRICK J. GALLAVAN.....Editor    MRS. HELEN FOWLER.....Librarian  
PAT CROOK, Asst. Editor and Librarian  
MR. AND MRS. SPIRO L. NICKOLAS, Custodians

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## THE COLORADO FORESTRY AND HORTICULTURE ASSOCIATION

A non-profit, privately financed Association.

1355 Bannock Street

Denver 4, Colorado

TAbor 5-3410



### MEET "P. J."

Your Board of Trustees is pleased to report to the members of the Association that Patrick J. Gallavan has joined the staff at Horticulture House. Mr. Gallavan, well-known to both professional horticulturists and home-gardeners in Denver as the pleasant assistant to George Stadler, City Forester, for nearly five years, will take charge of the business details of the CFHA, act as a leader in our educational programs, and serve as editor-in-chief of our publications, particularly the GREEN THUMB.

Mr. Gallavan is a native Coloradan, having grown up in Durango. During his high school years and until he entered the army during World War II, he received some basic experience in his father's business. After serving three years in military service he entered the University of Denver where he received both the A.B. degree and the Master of Arts degree in botany. He has a keen interest in local horticultural problems and has

recently been collaborating with several others in three important studies; control of iron-deficiency chlorosis, prevention of fire blight, and identification of a new disease of birch trees.

"P.J." and his wife, Esther, have a son and daughter four years and two years of age, respectively. They have a home in one of the new sections, at 1814 South Meade, so they have sympathy and understanding for the horticulture worries of all you new home-owners.

Members are always welcome to visit Horticulture House and to use the library, but now are urged to come in soon and get acquainted with Patrick J. Gallavan.

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### STATE PARK BOARD

On June 3, Governor Edwin C. Johnson appointed Michael Livoda, retired CIO leader, of 1080 Sherman St., Denver, to represent labor, and Frank Pluss, 4945 E. 1st Ave., Denver, to represent business on the Park and Recreation Board, established by the recent legislature. Mr. Pluss operates a poultry plant at 4041 Colorado Blvd. He has also been appointed chairman of the board by Governor Johnson.

The other members of the Park and Recreation Board are A. M. Ramsey, President of the State Board of Land Commissioners, Thomas Kimball, Director of the State Game and Fish Commission, Herbert Allen, Director of Public Institutions, Mark Watrous, Chief Engineer of the State Highway Department, Lewis R. Cobb, State Director of Advertising and Publicity. It is understood that the new board will meet sometime in June to organize and plan its program. The legislature appropriated \$10,500.00 to carry on its activities.

FRED R. JOHNSON





## PRIZE WINNING ARRANGEMENT

**G**LAMOUR in her kitchen, an arrangement of roses in a container to be found in the kitchen, intrigued Mrs. Ray Turnure into entering competition at the National Rose Show held in St. Louis, May 26 and 27, 1955.

Blaze, a climbing red rose was used for the arrangement. Mrs. Turnure has a natural aptitude where arrangements are concerned, but her cleverness in choosing and assembling the container created much interest and conversation.

The container was made of two stainless steel pot lids, polished to a

silver gleam. The knobs of the two lids were placed together and held secure with florist clay. One formed the base and the other the bowl for the arrangement material. A pinpoint holder was used for securing the arrangement.

Placed in Section F, Class 7 (a proper placing and classification is so necessary in rose show practice) at the National Rose Show, it merited a blue ribbon.

We are justly proud of Mrs. Turnure for having won this recognition. Growing, showing and photographing roses is a hobby with the Turnures.

Photograph by Ray Turnure



## MEET ME IN ST. LOUIS

(WE MET)

ON the morning of May 25th, we busied ourselves with the final preparations necessary for our departure for St. Louis, Missouri: the National Rose Show and the American Rose Society Meeting. We enplaned at seven in the morning and four hours later we were in St. Louis. The airport limousine took us directly to the Chase Hotel where conventioners were already registering for the big event. As we studied the program, we noted that each day was going to be a busy one.

Now if perhaps, you think this was just another convention with stuffy meetings and endless talks about roses, you are indeed mistaken! There were speakers, yes, but each was an expert in his or her field. All had that rare ability to hold the attention of their audience and the talks were both entertaining and enlightening.

The first session opened Thursday with a "Welcome to St. Louis" by Mr. Ralph Ross, President of the Rose Society of Greater St. Louis. Mr. Neils Hansen, Chevy Chase, Maryland, President of the American Rose Society, presided. Interesting speakers included Mr. John R. Patterson, director of the North Central District, of Moline, Illinois, whose subject was "Rose Culture by Members of the North Central District"; Dr. Edgar Anderson, director of the Missouri Botanical Garden, who spoke on "Rosa Alba", the white rose of the Renaissance; and Mrs. Ralph Traubel who spoke on rose arrangements, "Morning, Noon and Night". Mr. and Mrs. Ray Turnure, Denver rosarians, attended this session and Mrs. Turnure appeared to have a keen interest in the different arrangements.

After lunch everyone seemed eager to board the chartered buses which were to take them to the Missouri Botanical Garden and the rose show at the Conservatory. More than eight hundred specimens were exhibited and some had arrived by plane and rail from all over the nation. Among the most interesting classes were the miniatures and the old fashioned roses. Especially outstanding was a non-competing class of blooms from San Francisco, California. The Nicholson Bowl, the grand award, was won by Mr. L. M. Ross, Glendenin, West Virginia. The Horace McFarland District Trophy and other trophies were among the coveted awards. A blue ribbon was awarded to Mrs. Turnure on her arrangement entry. Queen of the Show was a beautiful Chrysler Imperial. We were taken on a conducted tour of Shaw's Garden and attended a tea at the old, restored Henry Shaw home.

The "Rose-rama" dinner was very delightful and the entertainment was exceptionally good. "Fragrance from the Rose Garden" by Mrs. M. Boling Thomas, Winston Salem, North Carolina, was an interesting description of the making of pot-pourri and rose petal sachets. Samples of her handiwork were used to illustrate Mrs. Thomas's talk.

Friday morning, the judging school opened in the Hunt room. Mrs. S. A. Steir, Salt Lake City, Utah, and Mr. C. H. Lewis, Salem, West Virginia were in charge of this session.

After luncheon, the seven chartered buses were waiting to take us on a tour of Forest Park, the Jewel Box and the Municipal Rose Garden. Gardens of members of the local society were next on tour, climaxed by a

picnic supper at the home of Mr. and Mrs. William H. Bies. Approximately three hundred fifty guests enjoyed the hospitality of the Bieses, the delicious food and the lovely garden.

The delegates' meeting and the second session of the judging school opened Saturday morning. Of interest to the delegates were the talks by Mrs. Helen Van Pelt Wilson, author of the new book, *Climbing Roses*, on "How I Came to Grow Roses"; Mrs. Rosalie Doolittle, author of the book *Southwest Gardening*, on "The Rose As Our National Flower"; and Mrs. Steir, director-at-large of the American Rose Society, on "How to Prepare a Rose Show Schedule". The A. R. S. nominating committee report was given by J. J. Klima, chairman from University Heights, Ohio. Mrs. Nat. Schoen talked on "District Support for the American Foundation". She is the A. R. S. district director from Vancouver, Washington.

In the afternoon, we decided to visit a friend in north St. Louis. We spent a few pleasant hours with her and of course we were interested in her little rose garden.

The convention closed with the "Missouri (Show Me) Banquet" Saturday evening. Trophies were awarded to the winners in the rose show

and Gold Medal Certificates to Armstrong Nurseries for the introduction of the rose, "Helen Traubel" and to Conrad-Pyle Nurseries for the floribunda, "Frensham". Mrs. Gretchen Harshbarger, garden editor of the *Household Magazine*, spoke on the "Love Life of the Rose".

It was with a bit of sadness that we bade our newly made friends Godspeed, yet happy we were that we had made the acquaintance of this fine group of rose enthusiasts. We chatted with Mrs. Van Pelt Wilson on the way to the airport about climbing roses, the subject of her latest book.

Abroad our flight homeward, we at last had time to relax and be grateful for our many new friends and everything which helped to make this trip a most pleasant one. We landed in Denver at 10:00 P.M. and as soon as we arrived home, we checked our own little rose garden with the aid of a flashlight. Needless to say, the bugs had enjoyed a holiday too and we vowed to take care of them soon.

In conclusion, we hope that all of you are planning to attend the National in Portland, Oregon in 1956.

LEONARD AND DOROTHY STUART

Aluminum foil can be used as a mulch, and although it does not increase fertility it does have most of the other beneficial effects of organic mulches.



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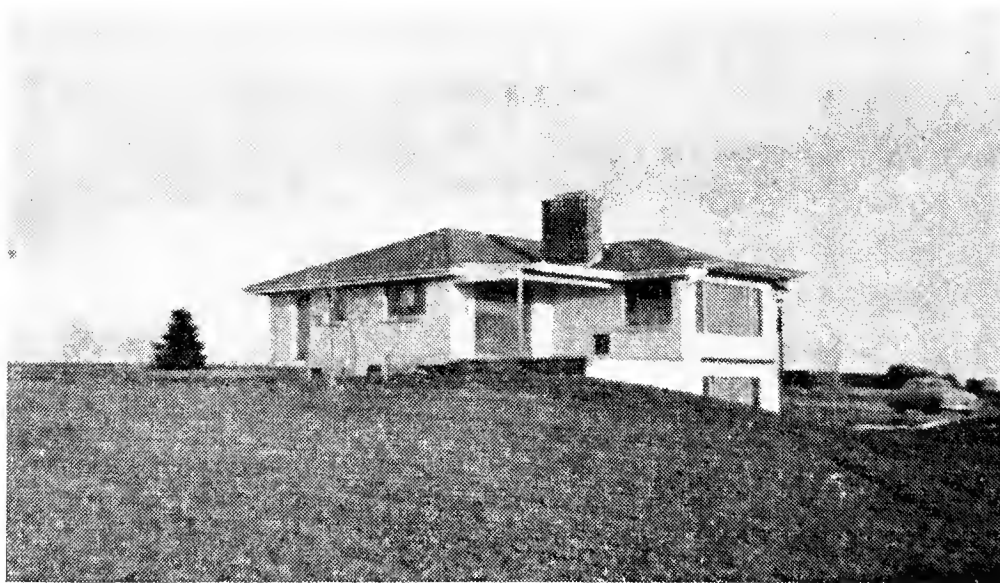


## YOU MAY MODIFY YOUR CLIMATE

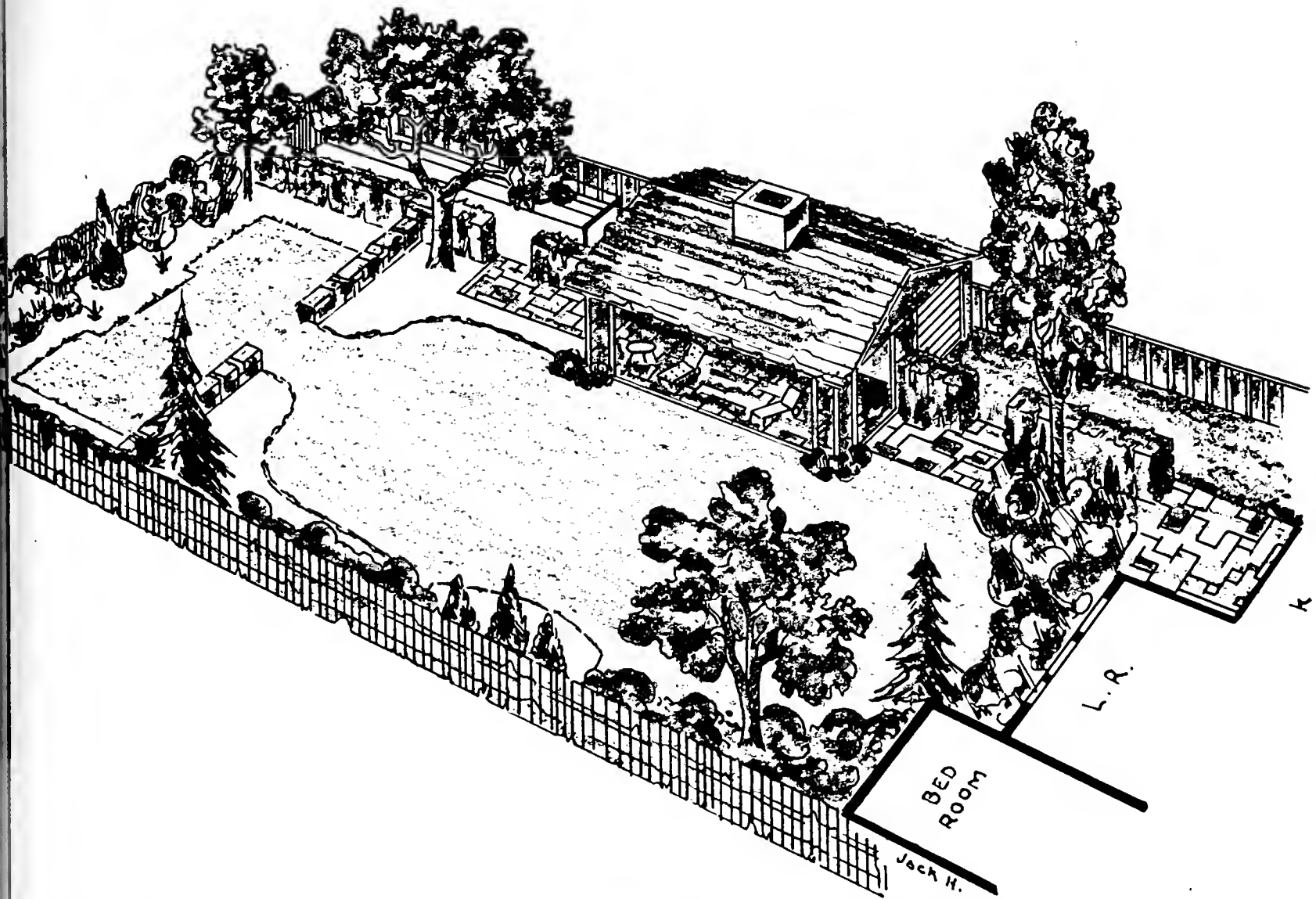
By GEORGE W. KELLY

**M**ANY of us enjoy going up into the mountains or back into the desert and taking the extremes of climate as we find them; but around our own homes, wherever they be, we like to modify the extremes of heat, cold, wind, sunshine or humidity to make more pleasant living. Especially, in the Mountain-Plains area is this modification of our natural climate important, for we do sometimes have unpleasant extremes. Our special problems are our hot sun, low humidity and abrupt changes in weather.

Some of the desirable modifications can be obtained by careful construction of our houses to encourage cooling breezes and make shady spots available when it is hot, and by proper insulation and screening from the wind when it is cold.







*A plan carefully worked out in advance will provide for trees where they are needed for their modifying influence and will eliminate trees that are unnecessary or that will conflict with other things.*

Almost everyone recognizes the importance of trees for the shade that they cast on our houses and grounds in summer, but these trees are not always placed so that they give the maximum benefits or they are overplanted so that they make a home gloomy. Each tree should be selected to perform a specific job and should be of such variety that it will grow to the size necessary to give maximum benefit.

Even more modification can be obtained through the proper arrangement of the landscaping and planting of ornamental plants.

Let us see then what the elements of climate are that we might try to modify for our comfort. They are in general Wind, Heat, Water or Humidity, Sunlight, Dust, and Noise.





*Trees properly placed and of suitable kinds will give shade, screening and beauty, doing much to modify all extremes of weather.*

Vines and tall shrubs can also be planted to shade certain walls of the house or spots in the garden. Pergolas and lath houses can modify the sunlight in areas where growing plants might not be appropriate.

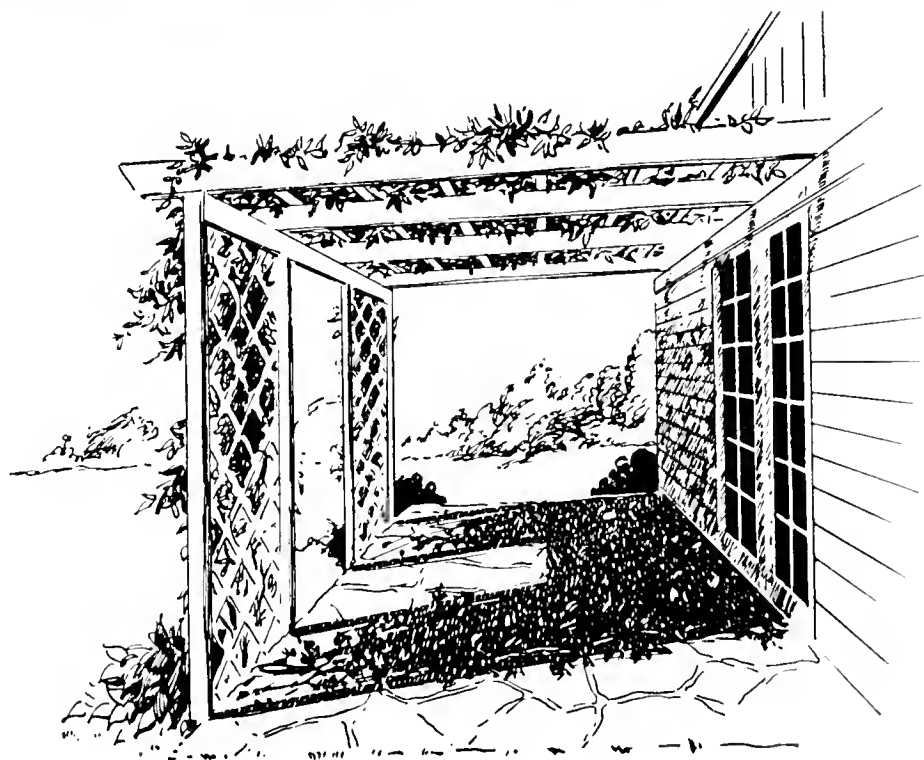
*Vines, espaliered trees and shrubs will all help to break the severe reflection of the sun on a wall.*

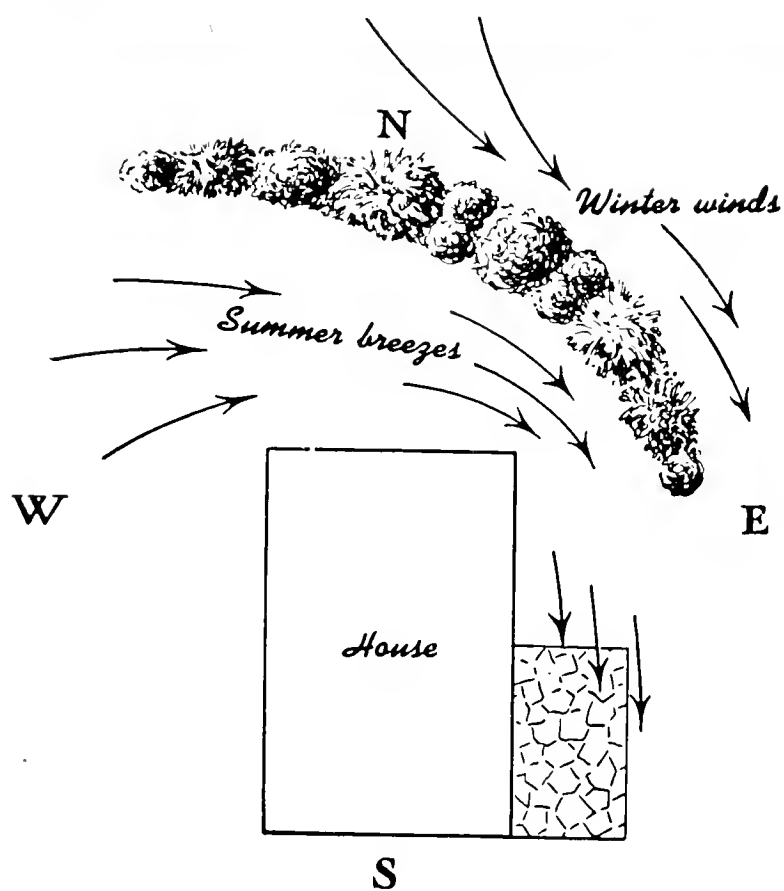
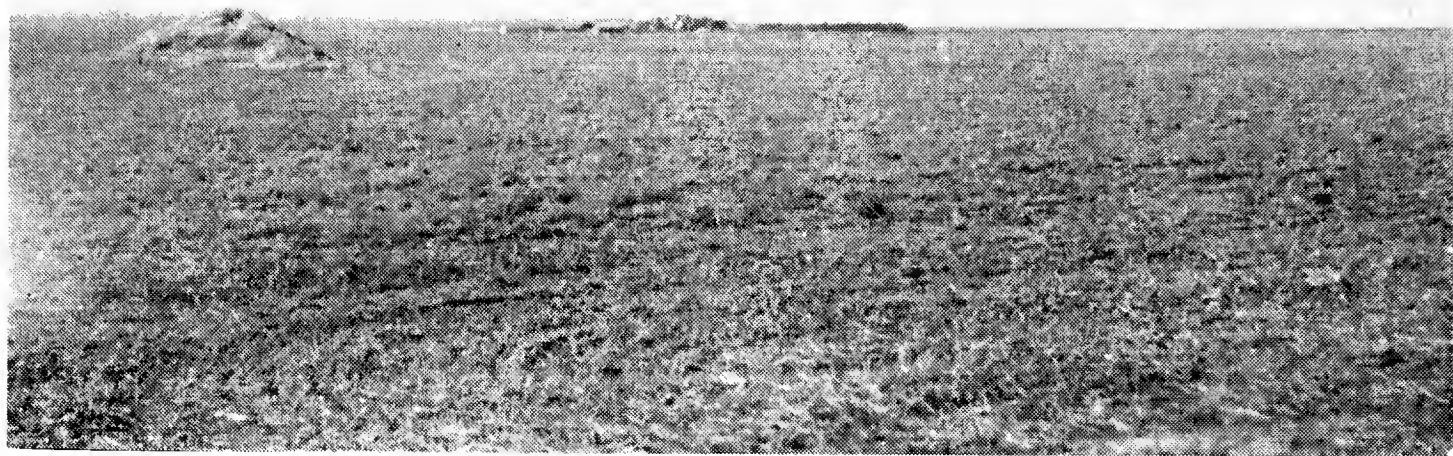






*Platforms can store heat from the sun and make an outdoor space liveable in winter while adjoining lattice shade will make the same area pleasantly cool in summer.*



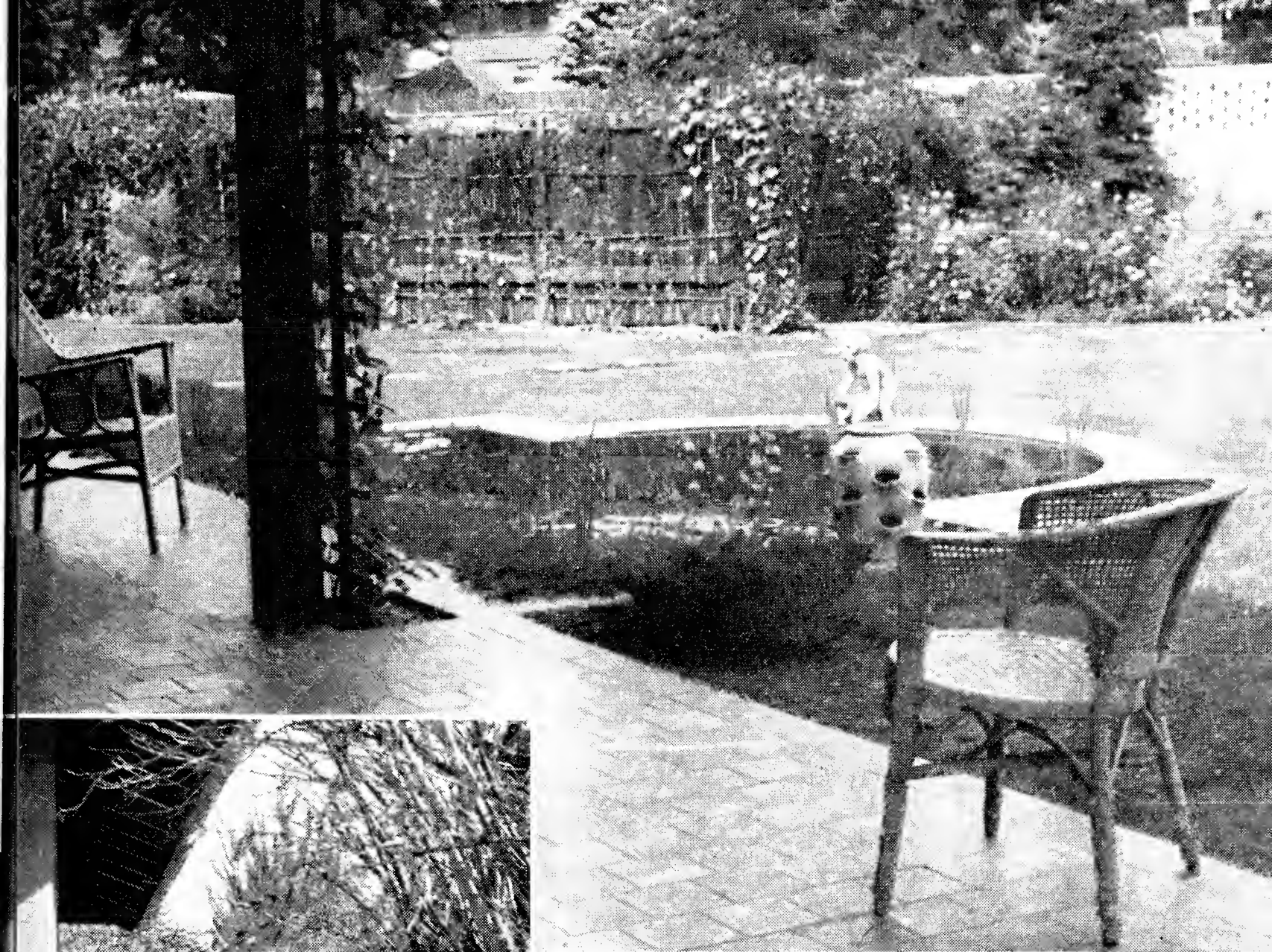


*In areas subject to severe winds, such as the plains, windbreaks to the northwest will often make it possible to grow many nice things otherwise impossible, and also make for much more pleasant living.*

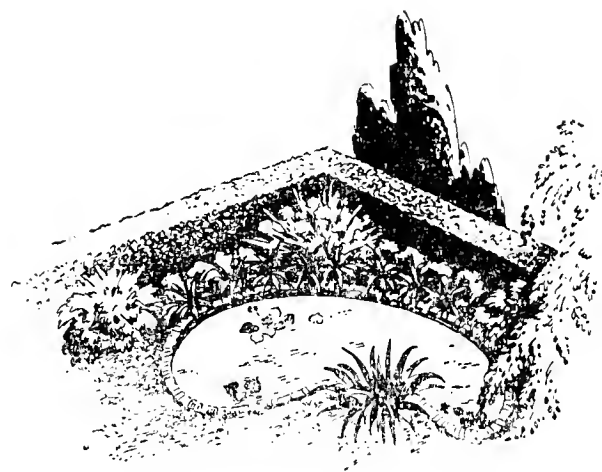
While some of our area is not subject to severe winds, some of the plains and mountain country does need protection. We can do much to break the cold winds in winter and

encourage cool breezes in summer by properly located windbreaks and lanes of trees or shrubs, keeping in mind the prevailing winds at each season of the year.



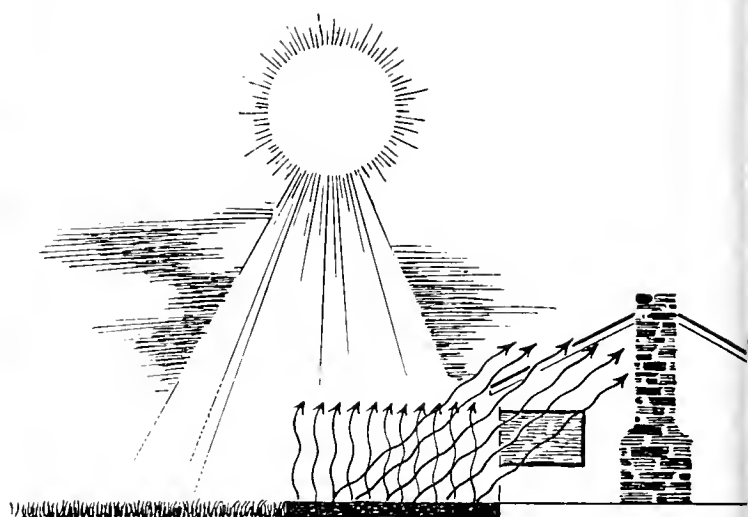


*Here is shown a garden with the modifying influences of walls, fences, pools, pergolas, and platforms.*

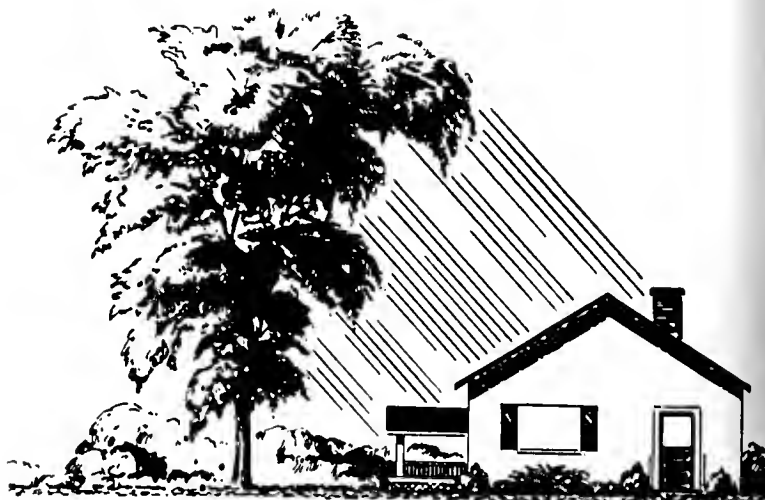


Humidity may be greatly increased by the use of water, whether this be in standing pools, running streams, the sprinklers that water our lawns, or the evaporation from the leaves of growing plants. We do not suffer

from extreme heat and cold in our area as much as is done in other places. ("It's not the heat but the humidity.") In fact, in most cases, we like it with more humidity than we have.



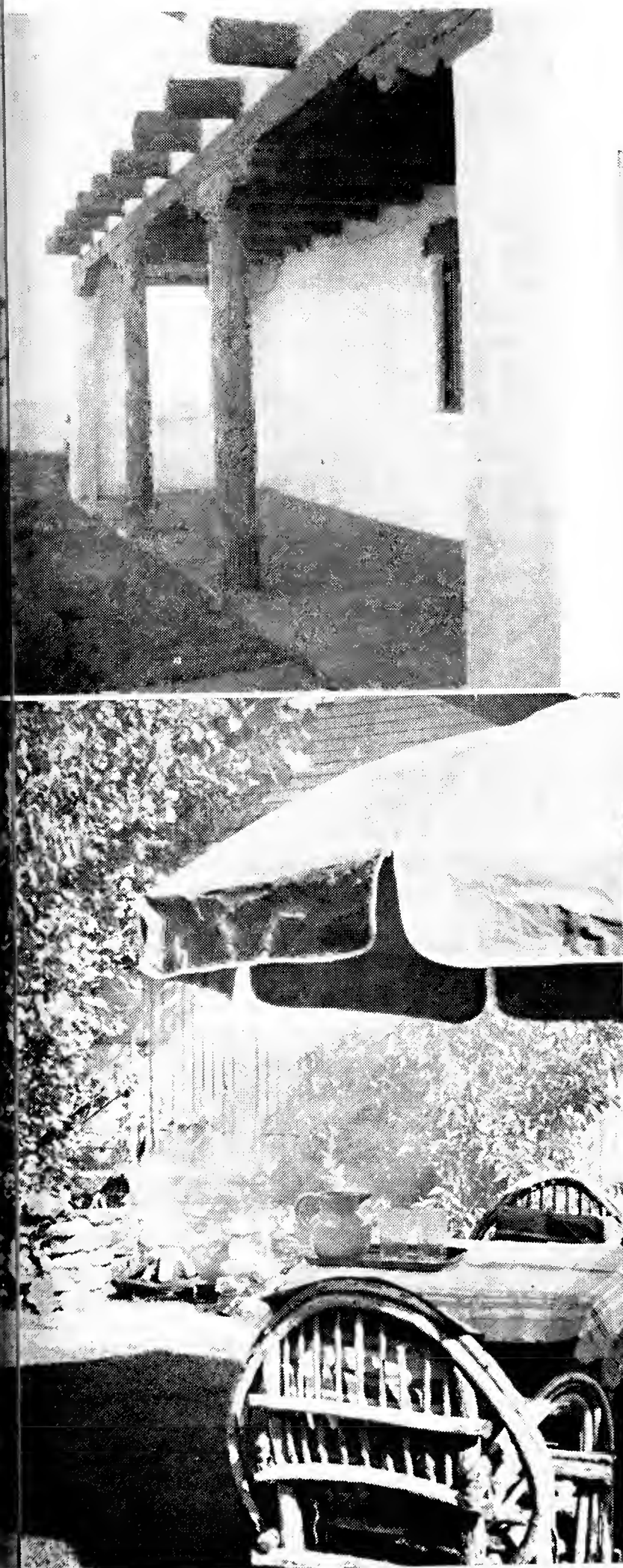
*The influence of reflected sun must be considered. Stepping stones across a lawn will make for a cooler garden than where large expanses of concrete or pavement are exposed. Where more heat is wanted, a platform can be arranged to catch this heat when wanted, and be shaded when not wanted.*





Light (and heat) may be encouraged to enter our rooms in winter when we need it through the use of the solar overhang, that takes into

consideration the height of the sun in the sky in winter and summer. Deciduous trees will have the same effect if planted in the right spots.

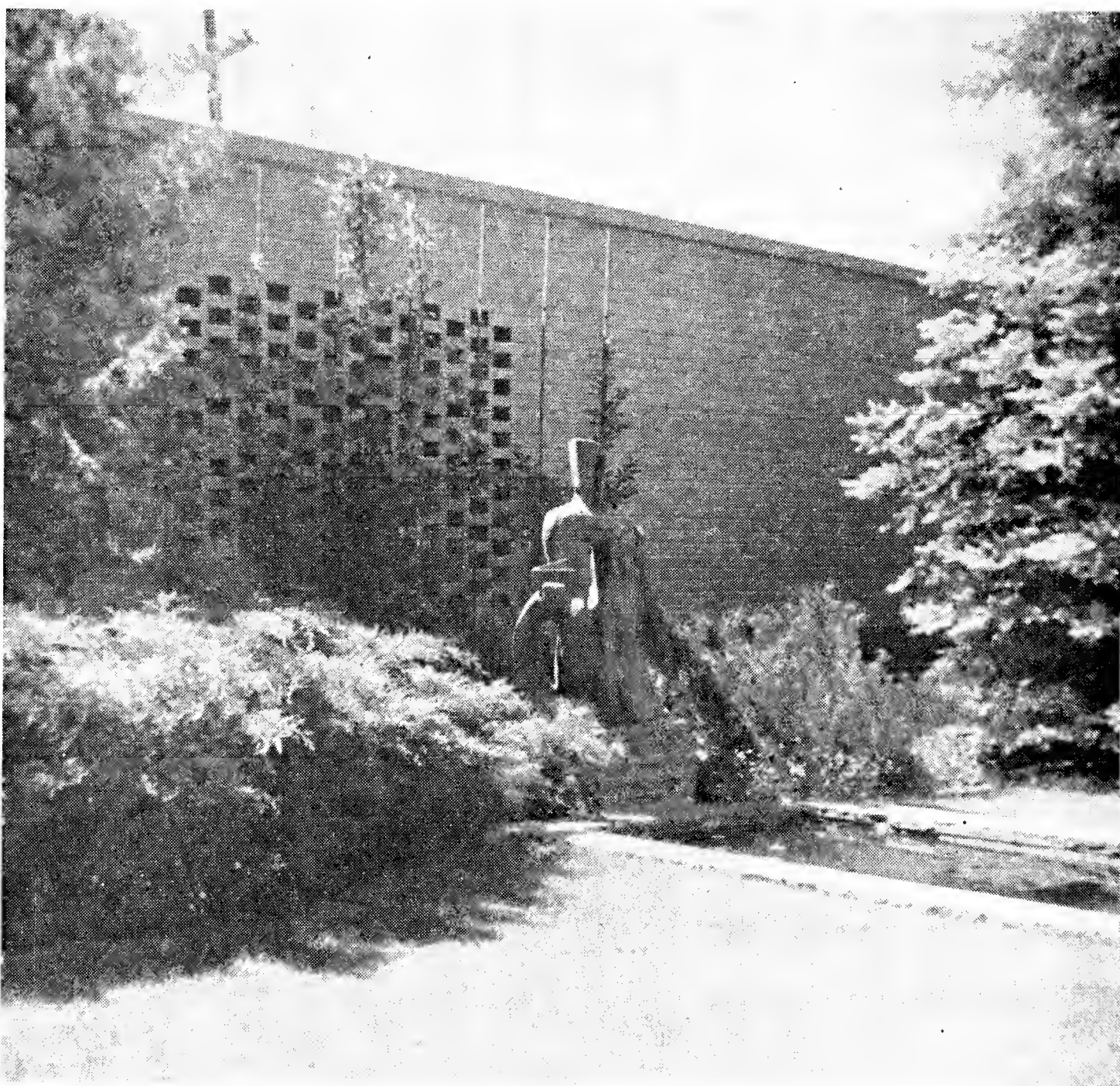


*The true "solar overhang" is generally a part of the house, but much the same effect of letting in the sun in winter and screening it out in summer can be had from the Spanish veranda, awnings, umbrellas and deciduous trees, that give shade in summer when full of leaf and let the warm sun through in winter.*





*A screen of living material, clipped or growing naturally, or a wall or a fence of appropriate height and design will do much towards eliminating objectionable dust and noise.*



Dust and noise can be screened out to a great degree by planting hedges of appropriate height between

our homes and highways or other undesirable features.



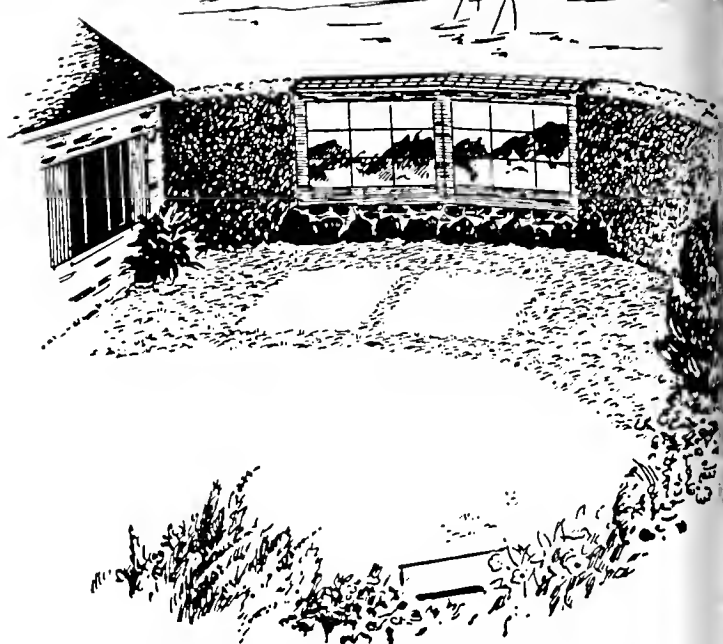


*Climatic pockets may be created in the protection of a wall, building, bank or rock where choice, tender plants may be grown.*

In addition to making the climate more agreeable for us we often wish to make climate suitable for growth of many of the nicer, but more tender plants. For these we may create what is referred to as micro-climate, or climatic pockets suitable for particular plants. These spots are preferably on the northeast side of a building where the severe winter sun from the southwest and the cold winds from the northwest are cut off, or they may be under a tree or behind a fence or screen of shrubs.



Glass and lath may often be used in areas surrounding residences to reduce the heat and light of the sun or to amplify it as desirable.

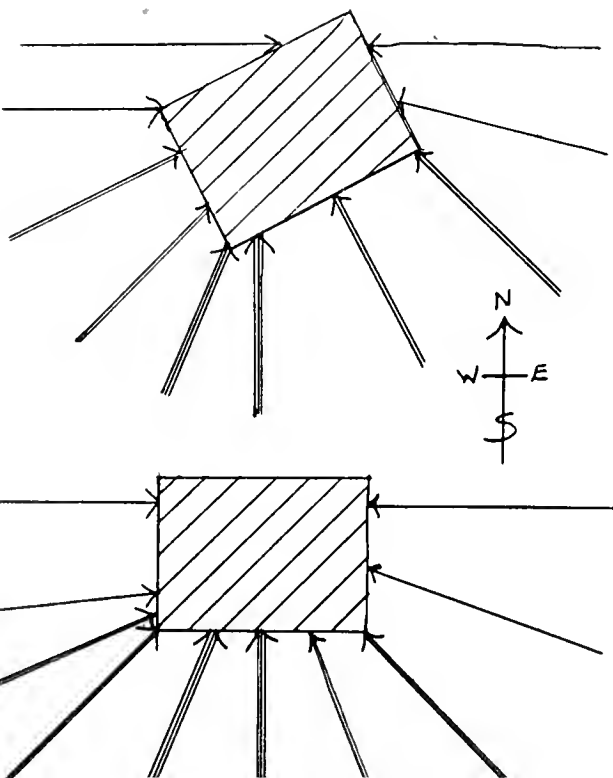


*Glass may be used to completely protect tender plants as in a greenhouse or there may be windows made to allow screens to be erected where the view and the wind are from the same direction. Screening an outdoor area from bothering insects will often make an area suitable for much enjoyable outdoor living.*



In planning the building of a house it may sometimes be turned at such an angle that there are no entirely

shady north walls nor any walls straight south that reflect too much heat.



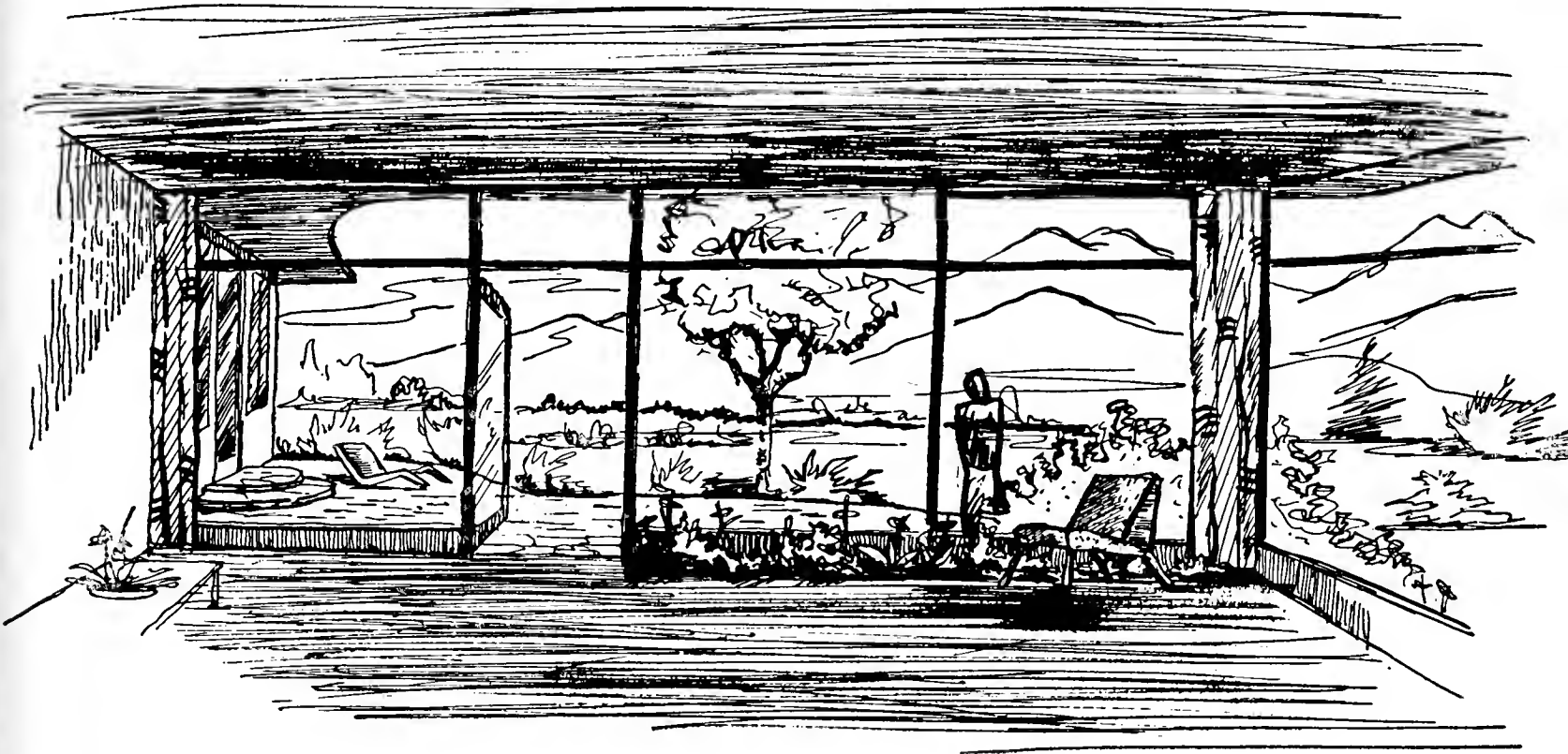
*The house set with the compass has two difficult exposures. The south wall gets too much sun, and the north wall gets practically none.*

*Setting a house on the diagonal, so that the corner comes toward the sun at noon or better still two o'clock, allows some sunshine to every side of the house, and an excessive amount to none.*



The design of home in warmer areas such as California or Arizona has shown a greater and greater tendency towards bringing the indoors and outdoors closer together. In some modern designs the walls, windows, roofs, and screens have been designed so that it is difficult to tell exactly when one is indoors and when one

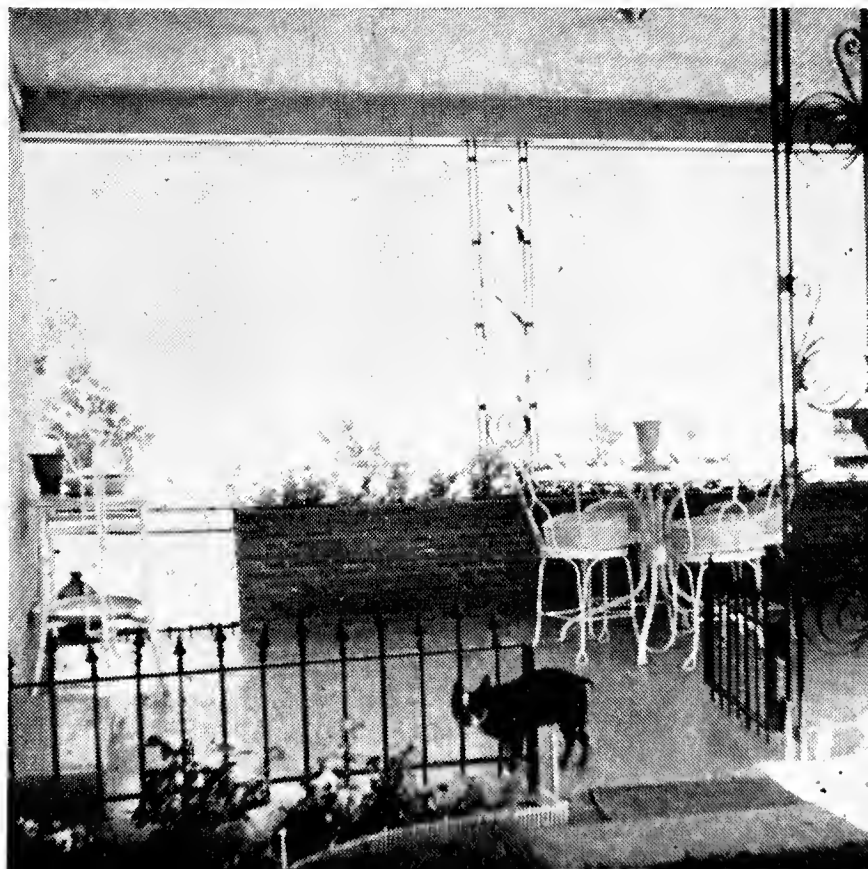
is outdoors. We can not go as far in that direction as these warmer states, but we can gain much in our own home design by considering this idea more. All of the features mentioned previously, such as sunlight, wind, shade, temperature and insect pests must be taken into consideration.



The color of walls, roofs and floors or platforms will often make quite a difference in their temperature. Black or dark colors hold heat and white or light colors reflect it.

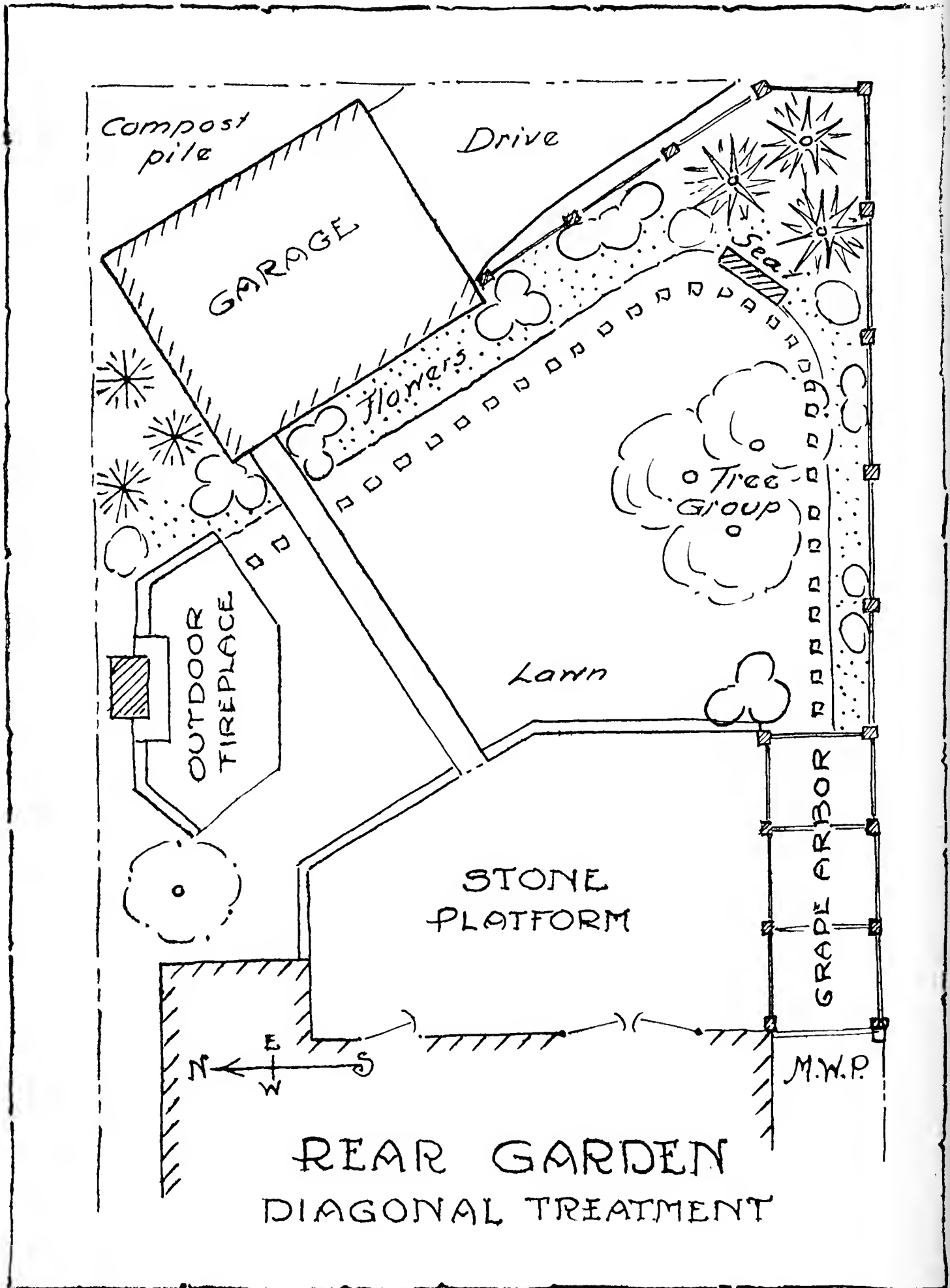
All of these things are important

*Above drawing by the famous architect of Colorado Springs, Jan Ruhtenberg, illustrates his feeling of the modern indoor-outdoor design of homes and grounds. Right, a simple little areaway, leading from house to garden, at the home of Mrs. Gerald D. Robinson.*



to the final pleasure to be had from your home and garden. Money is well spent to secure the advice of a com-

petent landscape architect or plantsman in planning the details of any home grounds, new or old.



We begin and end with the suggestion of the importance of planning in advance each detail of a garden, so that advantage may be taken of every possibility for taming a different climate and making our living areas more pleasant.



# HOW TO COPE WITH OUR PECULIAR CLIMATE

MORAS L. SHUBERT

## Part 1. *Moisture-Effectiveness*

WE have read, we have heard, and we have observed that in the Rocky Mountain region we have a peculiar climate. "Rocky Mountain Horticulture is Different", says Geo. W. Kelly in the title of his garden book, and he is mainly referring to the climate. In fact, our climate is so different from many other gardening areas of the country that it is amusing to see how often the writers for magazines of national distribution either give us wrong information, or ignore us altogether. It appears that at least one journal which divides the country into sectional maps does not recognize the existence of Colorado and Wyoming. At least when this writer pieces them together there is a suspicious hole where we should be!

In the GREEN THUMB of June, 1954, M. Walter Pesman made the following statement which is a worthwhile proverb to keep in mind, "The happy gardener utilizes climate problems, instead of trying to do something about them". Surely, we should keep in mind that along with the many trials and tribulations resulting from our climate, we also receive as many blessings. For example, where else are there so few fungous diseases to plague the gardener? Where else is there so much sunshine of such brilliance that the flowers develop such beautiful colors?

Not only is our total climate rather unique, but we have so many climates within short distances. We often talk of our unusual weather and how it changes so fast that the weather forecasters have trouble keeping ahead of it. Yet we find the tiny

local climates, which we should call microclimates, varying to an amazing degree. Compare the north side with the south side of a mountain canyon, or even compare the microclimate on the north side of the house with that on the south side. In both cases we find that even though the moisture received is essentially the same, there is a tremendous difference in vegetation-supporting capabilities between the northern exposure and the southern. On a canyon wall facing the north we may find Douglas fir trees growing in a thick stand, but on a south-facing slope across the stream we may find only a sparse growth of ponderosa pine and juniper. Likewise, we soon learn that we can grow ferns near a north foundation but not on an unshaded south side.

When we analyze the various climates, we find that there is a great deal of difference in the efficiency with which moisture is utilized, and even though the precipitation may be the same, differences in sunlight, soil temperature, and exposure to winds makes one site a dry one and the other a relatively moist one. This is, in a general way, what we mean by *moisture-effectiveness*.

Or to put it another way, moisture-effectiveness refers to the degree with which the moisture is made available for plant growth. If precipitation is greater per year than the total evaporation, the soil is moistened deeply and plants make extravagant use of the moisture and grow luxuriantly. But if, as is true in most of our gardening areas, we receive less precipitation than the air has the power to take away, we continually operate at

a deficit, unless we have irrigation water. To give a specific example, the records kept in Fort Collins from April through October, 1954, showed a loss of 41.88 inches of water by evaporation from an open water surface. During that period only 5.91 inches of precipitation fell, just one-seventh of the potential loss. This means that to grow plants that are wasteful of water, as most of our garden species are, the deficit had to be made up by irrigation. In this example, it would take nearly 36 inches to break even. For the twenty-eight week period, that would mean Fort Collins gardeners had to supply nearly one and one-half inches of water, on the average, each week in order to save their trees and shrubs, particularly.

We need more research in this region to learn just how much the evaporation loss is diminished under garden conditions where shade and windbreaks modify the loss. If we had more precise information about this problem, it would be most valuable as a guide when water-rationing becomes necessary.

We can be sure of one thing, however, that wherever the original native vegetation was grassland, the climate is a semi-arid one where the year's total precipitation is less than the evaporation potential. In recognizing this fact, therefore, we can plan a program that is in harmony with our climate.

There are a number of things we can do to overcome our poor moisture-effectiveness condition that is provided by our natural climate.

1. *Use native and other drought-enduring plants.* Many attractive species are adapted to a moisture-conserving mode of life and can thrive without irrigation.
2. *Prevent competition for moisture.*

By proper spacing and removal of weeds, we can get better use out of the natural precipitation without irrigation. A good example of this is seen in tree and shrub windbreaks growing with cultivation but without irrigation on the grasslands where such plants could not survive if they had to compete with the native grasses for moisture.

3. *Use windbreaks.* We should keep in mind that when the wind blows, the air picks up moisture from plant leaves much more readily than does still air. Any planting or structure such as a building or fence that reduces the wind velocity will reduce water loss.
4. *Use shade.* Water escapes much more rapidly at higher temperatures, and since shade reduces the temperature, it helps make a more humid garden climate. Of course, we have to put only those plants which tolerate shade in the shady areas.
5. *Use mulch.* Compost, peat, and other organic mulches on the surface or worked into the soil help keep the soil cool and moist, thus improving its moisture-storing properties.
6. *Irrigate properly.* Too many people are "sprinkler-shifters"! Even with short hours of water rationing, it is better to let a sprinkler run for a whole watering period, if necessary, to get a thorough enough application to last for several days than to try to cover a wider area inadequately. The writer favors sprinklers which throw a stream of coarse droplets over an area at least twenty-five feet in diameter. Experience has shown that where the soil is a fairly heavy clay loam, a two-

hour application will take care of that spot for from four to six or more days, depending upon the weather. So try applying more water at a time, but less often to each part of the garden if you have been a "sprinkler-shifter". A straight-sided can, like a coffee can makes a suitable raingauge to tell you how much water your sprinkler is delivering. Several such cans

can be set at varying distances from the sprinkler to tell what kind of coverage you are getting. An inch and one-half to two inches per week will nearly keep up with the water utilization in most gardens.

In the next part of this topic we will consider the question of autumn temperatures and hardening plants for the winter.

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## CLIMATE CONTROL?

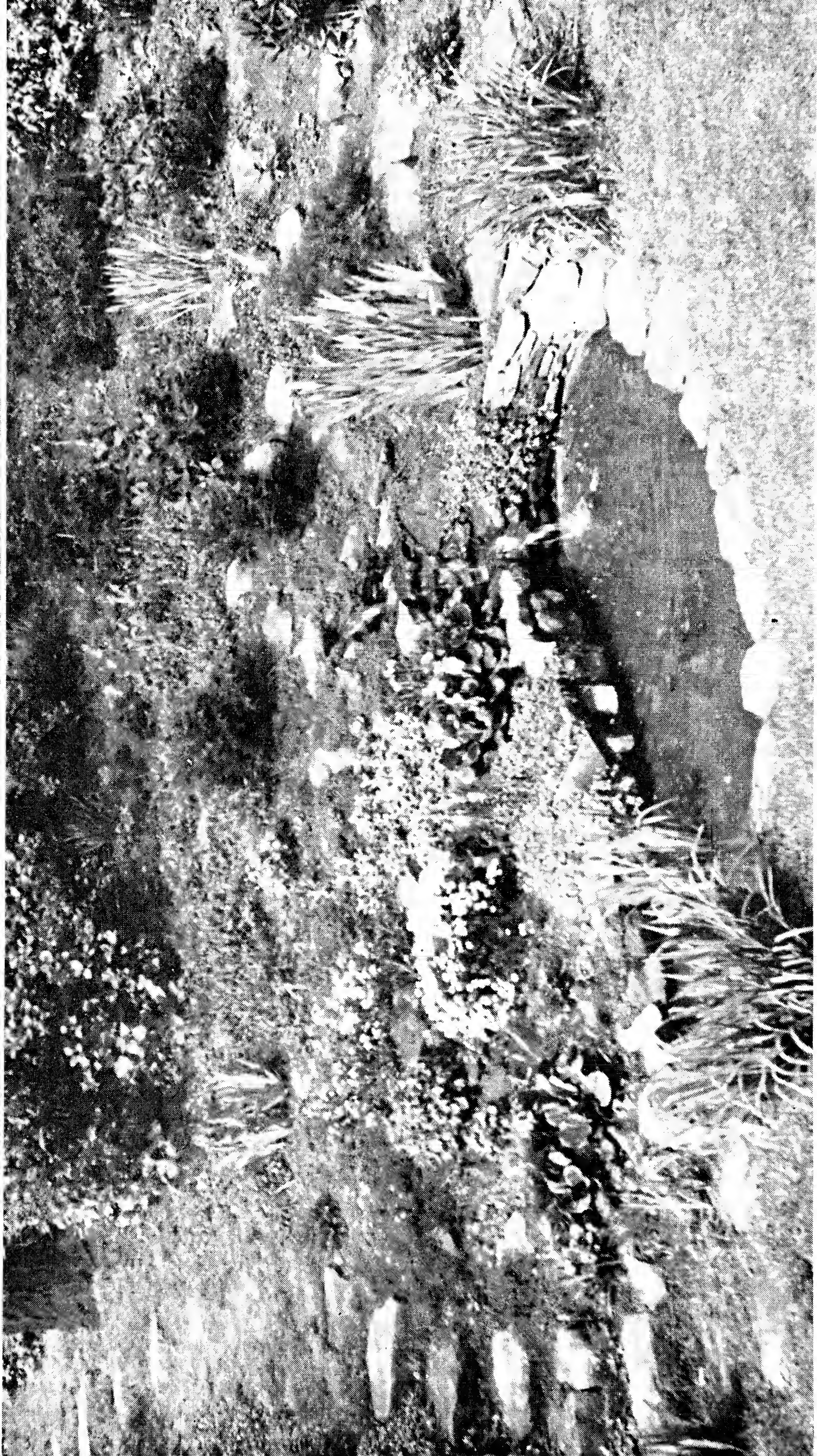
"First it rained and then it blew;  
Then it friz and then it snow;  
Then it fogged and then it thaw;  
And very shortly after then  
It blew and snow and thaw again."—B.W. Mitchell

Then summer came and still it snow, and still it blew,  
And then came hails and gales,  
    (along with bugs and snails and scales)  
And then came water regulation ! ! !  
Ah, but I'll control such climate with determination!  
From frustration,—in desperation—  
I'll build myself an air-conditioned home  
With green-paint lawn. At the crack of dawn  
Up pops a permanent irrigation,  
    (A yard with moisture saturation).  
I'll add some clouds for decoration,  
But grow my plants 'neath blue-paint dome!  
How's that for climate controllation?—M. W. P.

---

If you don't like our Colorado Climate,—just wait a minute.





*A garden waterfall designed and built by Dr. J. H. Belknap.*



## A GARDEN WATERFALL

*Dr. J. Harrison Belknap, author of "A Garden Waterfall" in this issue, is a newcomer to Denver. He was connected with the Westinghouse Electric Corporation for eighteen years. This service was interrupted by a tour of duty in the Air Force during World War II, on the Appointment Board, with the rank of Colonel. Then followed two years at the University of Rochester, as chairman of the Engineering Division. After that he was recalled to the Air Force, as Dean of the Graduate Educational School, for a period of five years. Next followed an assignment with the Atomic Energy Commission at Berkeley, California, as Director of Professional Personnel.*

*Since Dr. Belknap's retirement, late in 1954, he has been living at 2308 Newport Street, where he is applying his engineering training to garden practice. We will look for more articles from Dr. Belknap.*

THOSE who have a lily pool, or plan to build one, can easily have a waterfall, provided, of course, that their garden is not on level terrain. And of interest to those of us in Denver, where water restrictions are in effect, the waterfall need not require any water from the city supply mains.

While living in Forest Hills, a suburb of Pittsburgh, before World War II, Mrs. Belknap and I designed and built a watercourse and waterfall and fitted both into the natural slopes of our garden. While initially the stream had the appearance of the work of man, the placement and growth of plants and mosses soon gave the impression that it had been there since the creation of Pennsylvania's hills. The last plunge of the miniature stream was into the lily pool which had been built some time before. The music of the waterfall was a delight to neighbors and friends, as well as to our family.

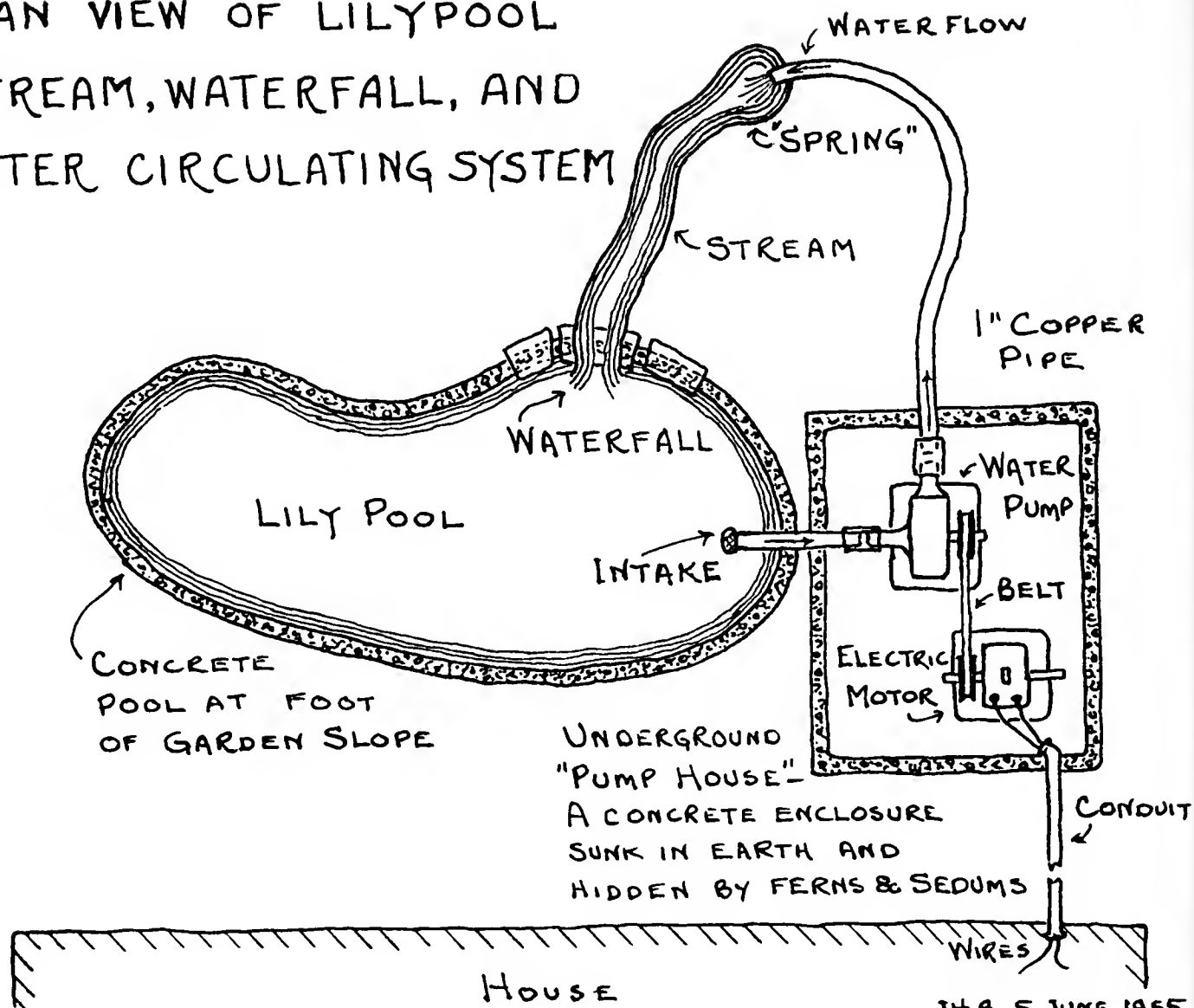
The lily pool was at the foot of a slope continuing to the rear of our property. Our home was on a gently sloping hillside and the two story English type house was built on a terrace which ended at the pool. The setting was ideal for the pool and waterfall, and the watercourse was located where its forerunner must have been before the homes in that area were built. Evidence for that point was that we frequently found

the traces of burrowing crayfish in the lower levels of our property—proof that there had once been a spring on the hillside.

Costs for the project were indeed small as I used an old one-quarter-horse-power single phase induction motor for the pump drive, and the circulating pump, from an old Buick, was bought from an automobile wrecking concern for less than \$2.00. Such pumps are, of course available in Denver. The largest expenses were for the one inch copper pipe leading from the pump to the "spring" and the conduit and cable carrying the 110 volt circuit from our basement to the "pump house". Possibly a sack of cement was used for the construction of the pump house which housed the circulating pump and the electric motor, and for the cementing of the lower course of stone in the watercourse. All visible stone surfaces betrayed no evidence of the handiwork of man as the work was done so that both the stream and waterfall would have a natural appearance.

The pump intake, as indicated in the sketches, was at a level below the surface of the lily pool and, accordingly, the pump was always "primed". A short length of flexible hose, such as is used for automobile water circulating systems, connected the pump discharge to the one-inch copper pipe leading up to the spring, and a similar hose connected the pump action to

# PLAN VIEW OF LILYPOL STREAM, WATERFALL, AND WATER CIRCULATING SYSTEM



J.H.B. 5 JUNE 1955

the intake pipe. The spring was quite well covered by natural stones, and all connecting pipes and cables were underground. The pump house structure measured approximately 18" by 24" at its greatest cross section and was roofed by a piece of plywood covered with zinc sheet. Drainage for the pump house was provided as it was not water tight and summer thunderstorms were, and are, quite frequent in Western Pennsylvania. A waterproof switch at the pump house facilitated starting the pump motor.

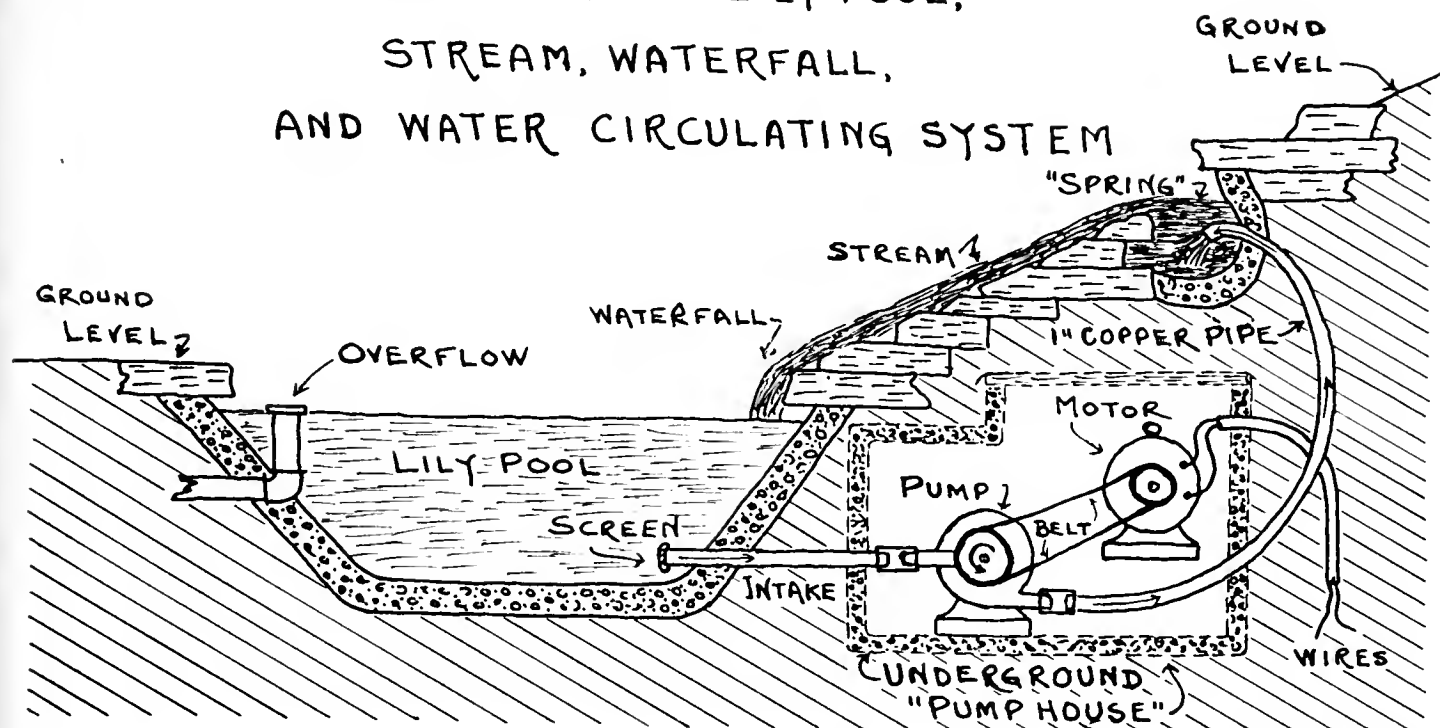
Costs for operating the waterfall were negligible. No water from the Forest Hills water supply mains was used except for the occasional refilling of the lily pool. Water was pumped from the pool and returned to the pool by way of the waterfall. Cost for the electrical energy for the pump

motor was in the order of one or two cents for each hour of operation. The spring was at an elevation of some two or three feet above the pool water level. The stream flow was never measured but I would imagine that it was at least 20 gallons per minute.

Mrs. Belknap's garden with its garden house, its rock garden and paths, and the pool and waterfall, was a real source of enjoyment to ourselves and our friends and neighbors. In addition, Mrs. Belknap frequently entertained the Garden Club of Forest Hills and their meetings at our home were always beside the pool and waterfall. The plashing of water was a musical accompaniment to the discussions on flower growing and flower arrangements.

J. HARRISON BELKNAP

## ELEVATION OF LILY POOL, STREAM, WATERFALL, AND WATER CIRCULATING SYSTEM



J.H.B. 5 JUNE 1955

## SEASONAL SUGGESTIONS FOR MIDSUMMER

1. Although the outdoor activities of Green Thumbers should be at a peak now, there are not many new suggestions to offer. By now we often find that we have been doing what we ought not to have done, or have been leaving undone what we ought to have done.
2. This is the best time of the year to move iris. Remember that if you are an advocate of trimming back the leaves after moving the plants, you will get weaker rhizome development, if you cut the leaves back too much. The writer has been unable to see any advantage in cutting the leaves, if the plants are properly set and watered.
3. The end of August or early September, depending upon seasonal trends, is the best time for establishment of new lawns in this region.
4. During this same period, late
5. August or early September, the old lawns will usually be able to use another application of mineral fertilizer. This will promote vigorous growth, which will put the grass in a better condition for winter dormancy.
6. This is a good season for Green Thumbers to visit other gardens and get new ideas for incorporations into next year's plans. Take advantage of the Look and Learn
6. On camping and fishing trips, remember that we all advocate and practice forest and park conservation, and this includes clean camps and picnic sites.

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## COMMON INSECT PESTS

**C**ORRECT identification of a disease or insect that is attacking your trees, and shrubs is prerequisite to applying control. There are many insect species and the life cycle of no two are exactly alike. The same is true of the organisms that cause disease. In practically all cases there is a period, sometime of short duration, during the life of these plant pests when they are vulnerable to known control measure. Generally speaking, this period of vulnerability varies with the species; hence, it is important in prescribing controls that the species be correctly identified.

Most work involving control of diseases and insects on trees requires specialized equipment. Your arborist should, of course, be called for such work. However, light attacks of certain insects on shrubs, and occasionally on small trees, may be combatted with reasonable success by the home owner with garden type sprayers or dusters provided he uses the correct insecticide and applies it at the proper time. In the following chart a few of the more common insects are briefly described and the safest methods of control given, to aid you in such of this work as you may wish to undertake.

### *Insects*

### *Characteristics, Hosts and Control*

#### **Aphids**

There are many species of aphids, varying in color from white to black. They are small, soft-bodied, sap-sucking insects and may be found on the stem, branches or leaves of nearly all plants. Often large masses of grayish-white aphids may be found under the curled edges of infested leaves. Contact insecticides such as malathion or nicotine sulfate are used in controlling these pests.

#### **Red Spider**

These insects are mites and, like aphids, suck the sap from plant tissues. They vary in color from pale yellow or green to red, and are so tiny that they cannot be seen easily. If an infestation is suspected place a sheet of white paper beneath the branch and jar the branch sharply. The red spiders will fall upon the paper where they may be seen as small, moving dots. Host plants include the evergreens commonly used in foundation planting, most deciduous species, and house plants. Fine sulfur dusts or wettable sulfur sprays may be used in control. Some of the newer insecticides like malathion, aramite or ovatran are effective.

#### **Scale Insects**

There are a number of species of these sap-sucking insects. During the winter they appear as small, white to dark brown scales, or spots, on the bark of twigs and branches. For a short period in the spring or summer the young move about as crawlers. They may be controlled by applying dormant oil sprays in the early spring, or with DDT or Malathion during the crawler stage.

*From the Shade Tree Digest—  
Courtesy of Swingle Tree Surgery Co.*

Deep watering at this period is much more effective than shallow sprinkling. Do not waste water. Some of the deep-watering gadgets, plus a good mulch will carry you through the summer, and at the same time encourage better root-system and hardier plants.

Late August is a good time to transplant oriental poppies, bleeding heart and finish with the iris you did not get divided earlier. July and August is the time to scatter biennial seeds, such as, Sweet William, Canterbury bells or mullein pinks.



## THE PSYCHOLOGICAL NEED AND EFFECT OF A COOL SUMMER GARDEN

By MRS. PERSIS OWEN

FOR most gardeners the growing garden year is divided into three very definite periods. Exuberant Spring — April, May and June — when nothing seems impossible, when all is expectancy. The garden, day by day, increases its bloom until it is a riot of color. The bees hum noisily from flower to flower. The birds sing incessantly as they build their nests and tend their young. Never again, till another Spring, will their song be heard so constantly melodious in the garden. Nature is at her best, the gardener at his happiest.

Then July and August, and Nature's relentless rush is over. She stops to catch her breath, to gather her spent energies for the Fall culmination of her growing cycle, seed making; and the gardener who does not follow her slow-down example finds himself opposed by her on every side. During these two hot months, if he is wise, he plans his garden so that it provides him with a setting conducive to peace and comfort; in other words, at this time his garden is cool and quiet and requires little from him.

A cool garden in July and August must of necessity be a shady garden, and a shady garden in our Colorado climate during mid-summer turns out to be almost entirely a green garden. Shade plants there are, but those that do well here during these months usually have delicate blooms and give their flowers but sparingly.

When he once perceives Nature's intent, work, rest, work, a gardener finds he is happier in his gardening and receives more from his efforts

when he cooperates wholeheartedly. Nature is not one to be opposed. She has ways and means of outsmarting a gardener, before he even realizes what she is about.

A colorful garden, one that is gay, full of bloom in Spring and early summer, cool and green and restful during the dog days, bright and flowering in Fall, must be carefully worked out. This planning is neither hard nor complicated. All that is required is that there be trees for shade, shrubs for low green and at least one flower border which in Spring and Fall receives full sun. This border should contain many so-called backbone perennials, such as Peony and Iris, which carry a good green leafy structure when not in flower, so that it gives in its nonblooming period a sturdy opulent green effect. So planned, a garden can have a wealth of bloom in Spring and early Summer when it will require much looking after; but at this time of year the sap runs high in both plants and humans and work is not a drudgery. In July and August this planning provides cool green shade, and a minimum of care. The gardener can relax and not bother about the browning leaves of his phlox, his wind broken delphinium, his lilies ruined by a late frost, or stunted by causes he cannot fathom. He doesn't have to bother about them, apologize for them, or mourn over them, for he hasn't any. His flower border is green and cool looking, and doing very well, thank you. Come late August and September and the border is once again full of color with hardy Fall bloomers; while he himself is rested

mentally and physically and can hardly wait for bulb planting, for clean up time, for bedding down against the coming cold winter months.

Since Nature follows such a plan, a burst of energy in Spring for bloom, a tapering off in mid-summer for rest, renewed energy in the Fall to finish her job and prepare for another Spring, a gardener who follows her example, not only for his own psychological need, but that he may not become a harassed pest to his family and a bore to his friends, finds often to his surprise he is a more pleasant

person and a great deal better gardener.

Try planning a garden that requires the least possible work during July and August, that lets you relax with no guilty conscience during these hot months. You will have to give up some of your garden bloom, but you will find you have also given up much fussing and fuming, much back-breaking labor in the hot, hot sun and that this almost workless interlude when the garden is all a cool shadowed green, holds a charm that neither the riotous colors of Spring, nor the warming hues of Fall can claim.



### HOUSE AND GARDEN FOR RENT

Is there a Green Thumber who wants to rent a house and garden in Wheat Ridge? After seven years of building and landscaping (we hoped for our years of retirement), we must leave our place the first of September for one or more years while we care for an emergency in the home of one of our children. We'd like to find renters who love to garden and who will enjoy our place and give it reasonable care.

The brick house has two bedrooms, a basement and plenty of storage space. We are on the bank of Clear Creek just west of Wadsworth Avenue with a good view of the mountains and surrounding landscape. We have a good vegetable plot, more than 20 fruit trees—some of them dwarfs and already bearing well, grape vines, a lovely back lawn with a large out-door fireplace and shade trees, shrubs, vines and perennials well started. **If interested, call or visit us.**

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*The Robert Ewalt garden, 2354 Elm St., was planned and planted to make it home. Mr. Ewalt is a past director of the Colorado Forestry and Horticulture Association.*

## THE GARDEN MAKES IT HOME

**M**OVING has a way of uprooting one's pattern of living, causing dozens of heart breaks, but generally as many new joys. An adjustment may be slow, but will come unannounced, and by some miracle, we are "At Home". I search into my memory about places where I have lived, and become aware of a fact,—That to be a home, there must also be a garden, your garden. It may be large or small, indoors or out, but it is always a place of retreat, and generous of reward for a bit of careful tending.

My mind goes back to many gardens, some that I have known intimately, others seen in passing. My own first garden was a scarcely noticeable spot where I transplanted a

shooting star, a saxifrage, a bit of moss on rocky ground and tried to make them grow; my daughter's, a little woodland she recreated on a platter, from her gleanings on a mountain trip; my son's, a trout pond in the far corner of the acre where we lived so long, and a fragrant thicket of pincherry which grew from a much too large plant for safe transplanting; my father's, a sheltered corner where we tread lightly and expectantly to see the treasures from the Illinois woodlands and our own high mountains that I had not yet visited; my mother's, a group of annuals growing in lush profusion. Then one recalls a few zinnias far out on the prairie, gaily blooming by an unpainted house, and more than likely

"Heavenly Blue" morning glories clinging to strings on the front stoop. One knows they had been brought to fruition with spent dish water. One sees a window garden of pink petunias, high in the hills where summer comes but in July and August. One time, I remember, there was a lovely rock garden built in an abandoned engine tender attached to a work train. With all these and many more we feel pleased, and glad that the people have been so gloriously rewarded.

I think our most memorable family garden was one built around a tiny pool, the size a boy of five could dig and cement with 25c worth of cement (and a little help). We got the sand from the river, and the rocks surrounding it were selected with care. It was a gem. The plants we collected for it were largely Sub-alpine, and we soon learned that the true Alpines were for fleeting pleasure on the few trips we could make to the "sky country" during their brief season. It was here, we learned the names and growing habits of so many choice natives.

At the same period, for our winter gardening, the "papa" built an aquarium from a discarded Ford gas tank. In a corner was a compartment of soil for planting a few bog plants obtained from a nearby hot-spring slough. The water part became home for the tiniest of minnows, shining and swift as guppies. There were native oxygenating plants, native snails, fresh water clams and a very small crayfish that came from a snow-water pool on the summit of a mountain pass. None of us will be likely to forget the friendly salamander with the big brown spots and the wide grin on his funny flat face. He lived with us until the last fly of the season was gone, and we returned

him to his warm bog that he might have his natural food over the winter. Primitive gardening—but a delight for children, and a good education for the research crew (the parents)!

The big garden at our home under the mountain just grew, and was always a joy when we didn't despair of the weeds. I couldn't recommend our methods, but we did have an endless parade of flowers.

There was a well defined plan at first, based around the original old trees and shrubs. Many of the shrubs were severely pruned in front. Areas within the yard were separated by plantings of lilacs. They not only made a wonderful background for the early spring flowers, but gave wind protection to many "tender" plants. Plantings of large cedars soon became full of birds, and these were protected underneath from ground winds by plantings of large junipers of the spreading varieties. Ground covers were used extensively to lessen weeding, conserve moisture, and hold the fallen leaves in Winter. The ground was never raked except the lawn at mowing time. During the years, the soil became soft and pliant as in the hills, a joy to seeds, so one could always find trollius, primroses, violets and many other choice seedlings for gifts to neighbors. Lily-of-the-valley grew rampant, male fern became large and lovely, with "unexpected" appearances of rare lilies, and trilliums in their midst. Crocus, daffodils, species tulips in variety, and Regal lilies came up anywhere. The larger perennials were planted in clumps where passers-by could enjoy the color. This is simpler than border gardening, and requires less weeding. The plants can stand 3 to 5 years before digging and resetting is necessary.



The small plants that one has in specimen quantity were planted in compatible groupings where hand weeding was easy, and in small areas placed to be seen as we went to and from the many outside tasks of the day. The pool was a place to browse and see special things tucked in the rocks around it. Very early in the spring, daffodils crowded close to mirror their fresh, crisp loveliness in blue water, a native water lily opened its huge orange cups, and gold fish dashed beneath the large green lily pads. It was a garden to live in, and find peace, without being slaves to its upkeep.

Then we left all this for a home in the country, with a magnificent view of the Divide, some lovely old cottonwoods, boisterous winds, almost no shade around the house and lawn, water for "house use only". This was a challenge with not a few misgivings. Hollyhocks and unchoice iris were everywhere; the lawn too large for a limited supply of water and the attentions of busy people.

Since evergreens are my husband's first joy in a garden, it was with them that we started our plans. By early summer, we had many varieties planted, including pines, upright and prone junipers, and the beginning of a spruce wind break, all placed with the thought of cutting down lawn area, but never to hinder our view when they became tall. All were soaked thoroughly when planted, and a basin left around each plant to make the most of any water we could give them later. Weeds and lawn trimmings were placed beneath the plants from time to time to build up a mulch. On very dry hot days, the foliage was lightly sprayed with water in the cool of the evening. By the end of summer, the grass was brown, but not dead, and all the

evergreens thriving. They had been hand watered in rotation, adding up to no more than three times per week, each. For winter, the mulch was increased. This included straw, hay, old flower stalks, anything of the sort available. The trees gradually ripened, assuming their characteristic winter coloration and we knew they were safe for continued drought conditions.

At blooming time the hollyhocks were beautiful, but were subsequently cut to prevent the seed from ripening. All iris were dug, and the ground was left open for cultivation, as the less choice the iris are, the more persistent they become.

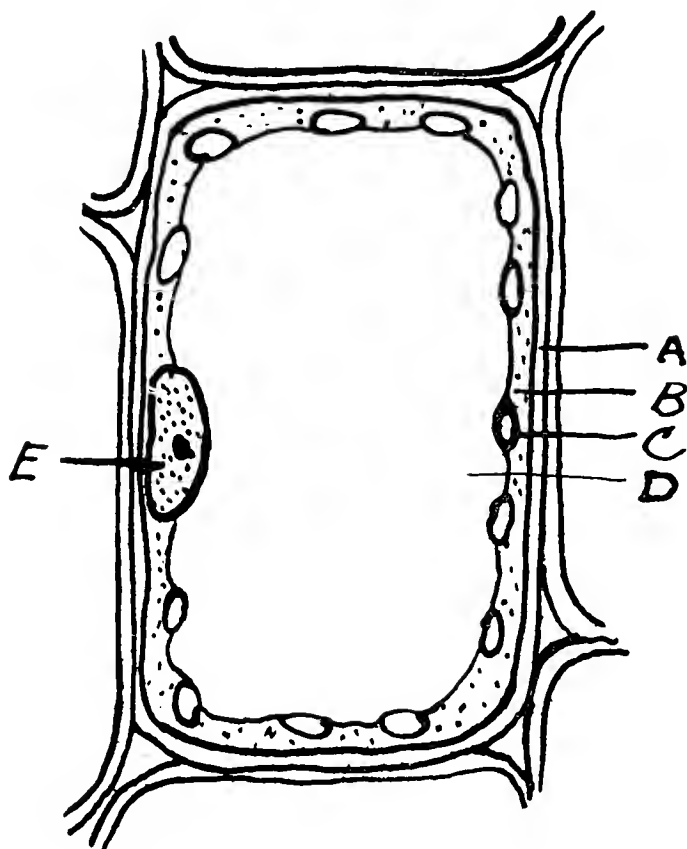
There is a small triangle beneath a floor level picture window which is our "one" shady nook. It is planted with male fern, epimedium, blue polyantha primroses and hardy cyclamen. The latter is our newest acquaintance, and should be better known. It is surprisingly hardy and thrifty; the flowers, dainty as elves, the seeding habit quite as delightful.

We feel gratified with our first season's progress. Our second Spring begins with a good supply of well water, allowing us a little more variety in plants. Our large picture window has the beginnings of a rock garden, that we can enjoy from inside or outside. Very young evergreens are placed in pots carefully hidden from view by rocks, pineneedles and miniature shrubs. This will keep the trees dwarfed, as are the Japanese "bonsai". We have species tulips here, species iris, and other first bloomers of the Spring time. We like our first experience in Country Living, and know well that "Home is Where The Heart is", but let there be a garden, too.

MILDRED L. STEELE

# THE MARVELOUS WORLD OF PLANTS

HELEN MARSH ZEINER



*Diagram of a typical plant cell.*

*A—cell wall*

*B—cytoplasm*

*C—chloroplast*

*D—central vacuole*

*E—nucleus*

SINCE cells are of such vital importance in the life of a plant—indeed, in all life—everyone should have some understanding of them. A cell is defined as “the unit of structure and function in all organisms”, a statement which may mean much or little to the reader.

Cells are extremely small objects, some large enough to be barely visible to the naked eye, but mostly visible only with the aid of a microscope. Because of their small size, study of cells is a comparatively recent thing, and has developed into a special field known as cytology.

In any large plant there are many different types of cells performing a variety of functions, yet they all have certain common characteristics. A typical plant cell is made up of a mass of living matter called protoplasm, surrounded by a firm layer,

the cell wall, which was produced as a secretion from the protoplasm and which, in mature cells, is probably dead. Certain types of plant cells lack walls—for example, one-celled aquatic plants, some reproductive cells of higher plants. The wall is composed chiefly of cellulose, and makes the framework for the plant. Cell walls are of great economic importance—wood and fibers such as cotton, for example, are primarily cell wall material. All cells, though varying greatly in shape, have length, width, and depth.

The living part of the cell, the protoplasm, is the truly vital part of the cell, for all life processes are directed and controlled by the protoplasm. We know many facts about protoplasm, yet there are many things we do not know—it has been said that to really comprehend protoplasm

thoroughly would be to understand all life.

Physically protoplasm resembles egg white. At times it may be much thicker, almost solid, as in a dry seed. It belongs to a class of substances known as colloids, which may be thought of as gelatinous or glue-like materials in which one substance occurs as finely divided particles in another substance, the two forming a stable solution. Familiar colloids are egg white, mayonnaise, jelly, glue. Protoplasm is a mixture of many kinds of substances in colloidal solution in water. About 80-90% of the weight of protoplasm is water, with proteins predominating among the other materials present. Chemical changes in protoplasm occur at the surfaces of contact between particles. Chemical and physical changes in the plant cell are taking place constantly and with great rapidity, which may be explained in part by the large amount of surface exposed by the particles. Protoplasm is sensitive to outer changes. It is capable of growth—increase in amount. Every kind of living thing is characterized by its own kind of protoplasm. All contains practically the same chemical substances, but one peculiar property of protoplasm is that each kind assimilates certain parts of a common supply of materials into its own peculiar kind of substance—

from non-living materials it creates new protoplasm exactly like itself. Thus the living part of any cell is probably an extremely complicated system of colloids with the constituent particles interrelated in a way which is characteristic of that kind of organism. A disturbance of this organization will upset the normal activities of the cell or cause death. In final analysis, it is some sort of a dynamic system as yet not well understood.

Protoplasm is divided into the nucleus, a denser rounded body which is the governing part of the cell; and the less dense cytoplasm. In mature cells there is a central vacuole. Younger cells have small vacuoles scattered throughout the cytoplasm. Some cells have more than one nucleus; a few have none, but it is believed that nuclear material is present although not differentiated into a definite body. The nucleus seems to control the life processes taking place in the cell and it is known to play the principal part in cell division and heredity.

The cytoplasm is frequently in motion ("streaming"), and may carry the nucleus along with it to various locations in the cell. Found in the cytoplasm are various small bodies known as plastids. Common among these are chloroplasts, which give green plants their color and are concerned in food-making. They may

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PY 4-0430

vary from small, spherical bodies to large elaborate patterns characteristic of certain kinds of plants. Chromoplasts give yellow, orange, brown, and some red colors to plants. Leucoplasts are colorless bodies in which starch may accumulate. In the presence of light, leucoplasts may develop into chloroplasts.

Non-living inclusions may be such things as mineral crystals, oil drops, starch grains.

The vacuole is filled with cell sap, which is water with various materials dissolved in it. Some plants owe their colors to dissolved red, blue, or purple pigments which may change color depending on the acidity of the cell sap.

Each part of the protoplasm is separated by a membrane. As the parts work as a unit (the cell), the surfaces of contact are important. The membranes determine in large part what enters and leaves the cell or what goes from one part of the cell to another. Water readily passes through these membranes, but materials dissolved in water may or may not do so. This process of diffusion through membranes is known as osmosis.

The only way for new cells to come into existence is through the division of previously existing cells. Any plant begins as a single cell. Through repeated divisions, a many-celled plant is formed. Cells grow until they reach a mature size—determined by the cell wall becoming rigid and permitting no further expansion. Once the plant attains its mature form, growth still continues by divisions of cells in growing regions, as tips of stems and roots. In very simple plants, the cells are all alike. In higher plants the cells become differentiated into different types. Groups of cells alike in structure or function are called tissues, and the tissues in turn make up organs such as stem, leaves, root. Examples of tissues might be the simple epidermal tissue, the “plant covering”, or the pith cells in the center of stems. A more complex tissue would be the vascular or conducting tissue, composed of different types of cells with specific functions in the business of transporting water and food from one part of the plant to another. All activities of a plant are the sum total of the activities of its various cells.

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## PEACH TREE BORER

Many home gardeners have had rather unhappy experiences this year with the peach tree borer. This rather undesirable insect deposits eggs on the trunk of peach or cherry trees during July and August. The eggs hatch and small larvae start their trek downward toward the root crown of the peach tree where the bark is usually fairly soft and penetrable and gain entrance to the trees. Unfortunately, inasmuch as the larvae at that stage are quite small, most often they go unnoticed and nothing is ever done till it is too late and the damage is already done.

During May and June many home gardeners reported large quantities of sap jellying and oozing from the lower portion of the tree near the ground level. This oozing of the sap is caused by the injury to the bark and to the trunk of the tree by the peach tree borers which are usually emerging about that time from the trunk to seek temporary protection in the soil for a short period of pupation until, of course, the adult emerges to complete the life cycle of this insect. Only one means of controlling peach tree borer can be employed at this time. That consists of continued spraying of the tree trunk with DDT at the rate of four tablespoons of 50 percent soluable powder per gallon of water. The spraying should be accomplished about every two weeks during July and August so that the young larvae can be eliminated before they gain access to the tree. In early September Para-di-chloro-Benzene (PDB) crystals can be placed in a circle 6 inches from the tree trunk. Amounts used depend on the age of the tree. Call Horticulture House later for this information.

## Tree Film In The Making

A 16 mm. color film, with sound effects, is being worked on by the National Shade Tree Conference. As proposed, it will be made by the well-known John Ott, who has worked with Walt Disney in the Nature Series production. Time-lapse photography will be used to show growth of insects and fungi, callus development over wounds, and various phases of tree growth.

There will be three main headings of the film: PLANTING, CARE OF NEWLY PLANTED TREES, and SHADE TREE MAINTENANCE. Total time of running will be a little less than half an hour.

This film is a project of the National Shade Tree Conference, whose members are asked to contribute all the way from Ten dollars to Five Hundred Dollars. Dr. Chadwick of Ohio State University is in charge of this Arboriculture Film Fund.

The outline looks good: planting, pruning, fertilizing, are treated in detail; so are plant chlorosis, lightning injury, cabling, spraying, and some of the common diseases and insect pests will be illustrated in various phases.

If you want to help, call our John Swingle at DEXter 3-6349; he'll tell you more and take your contribution.

M.W.P.

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*One of the beautiful gardens shown on the Boulder Look and Learn Garden Visits.  
This is a view of the Frank E. Germann's garden.*

## “LOOK AND LEARN GARDEN VISITS”

VISITING beautiful gardens is fun! It is also very interesting and satisfying, when we can carry away a mental picture of some special bit of planting we might like to see duplicated in our own garden, and some helpful hints as to how we can obtain it.

Our “Look and Learn” Garden Visits have just that idea for our objective. At each garden, in addition

to a Hostess, there is someone who, assumedly knows the garden, the plants, the answers!

Our “Garden Visits” still to come will occur on Wednesday, August 17, and Wednesday, September 14th. We were very happy to present 10 lovely Boulder gardens on the Tour on Sunday, July 17th. We hope many Denver garden lovers availed themselves of this opportunity.

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Our program for the season began on Wednesday, June 22. Next:

**Wednesday, August 17, 1955**

**10 A.M. to 5:30 P.M.**

Mr. and Mrs. Ralph Rickenbaugh,  
600 So. Univ. Blvd. (polo grounds)

Mr. and Mrs. Clyde Learned, (roses)  
988 So. Williams Street.

Dr. and Mrs. R. M. MacDowell,  
(large yard—rock bank) 1030 East  
Yale Ave.

Mrs. Clara Plumleigh, (rock border  
and pergola) 2173 So. Marion St.

Dr. and Mrs. C. S. Bluemel, (Merion  
Blue Grass) 4501 So. Franklin St.

Mr. and Mrs. Lemoine Bechtold, 4201  
So. University Blvd. Iris!

**Wednesday, September 14, 1955**

**10 A.M. to 5:30 P.M.**

Mr. and Mrs. Robert Stovall (roses)  
160 Race Street

Mr. and Mrs. George Kenmore, 100  
Dexter Street

Mr. and Mrs. Willett Moore, 875  
So. Adams Street

Mr. and Mrs. Arthur E. Johnson, 515  
Race Street

Dr. and Mrs. James J. Waring, 2125  
Hawthorne Place

Mr. and Mrs. Frederic H. Douglas,  
745 So. Jackson Street

Tickets (season) \$2.50 are obtainable at Horticulture House. Single tickets for one day are to be had at any of the gardens shown on that day.

Mr. Lemoine Bechtold has again generously offered to give some of his fine iris rhizomes to Ticket Holders visiting his garden on the August visit.

Rosamond U. Perry,  
for the Committee on the  
"Look and Learn Garden  
Visits".

## Library Donors June

Mrs. William Evans

## Donations To Colo. Forest & Horticulture Association

**May and June**

Mrs. Rulison Knox  
Mrs. Williams Evans  
Mrs. John Evans

## NEW MEMBERS

**May-June**

**DENVER**

Max B. Ames  
Mrs. R. C. Hartford  
Dr. and Mrs. Saul Rosenfeld  
Mrs. Harry A. Trueblood, Jr.  
Oran C. Miller  
Florentine Ehret  
Mrs. K. E. Saltgaver  
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Earl Baird  
Mrs. Kenneth J. Young  
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## Aurora Tree Planting Program

The Parks Department of the City of Aurora recently launched an ambitious street tree planting program that will, as the years go on enhance their city with colorful and useful street trees. This spring, with the help of volunteers, over 2,000 trees were planted along the city streets.

It is evident that considerable planning has been given this program. The use of desirable trees, good spacing, proper planting, and planting on a pay-as-you-go basis indicate that they have profited well by the mistakes of others.

We wish Aurora well in its endeavor and hope that many of our other Rocky Mountain cities will consider similar programs.

PATRICK J. GALLAVAN

Watch for red spider on your evergreens, roses and phlox. The best control for this is one of the miticides, such as Aramite, or you can use malathion, which is very effective and destroys aphids at the same time. Mildew will be prevalent as soon as the nights become cool. Sulphur is recommended for this. Caution: Sulphur burns when applied at temperatures over 85 degrees.

Do not feed roses after August 10. To do so, encourages succulent growth that will be damaged should we have an early freeze. Keep your rose beds tidy—a few minutes at a time will take care of the spent blossoms or foliage damaged by red-spider or possibly black-spot. We have very little black-spot here. However, it is safer to burn all foliage you pick up in the rose garden.



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## A CROOKED TREE

Once upon a time there was an old lady who loved crooked and gnarled trees. An old cottonwood silhouetted against a mountain sky horizon was the delight of her heart. Stumpy old boxelders, Russian Olives and old Willows on ditch banks were her pets.

One day I found myself selecting such a tree for the lady's garden. "Those culls over there?" said the nurseryman. "They are yours for the digging. It will save me the labor of burning them."

The tree lived. Right in front of her dining room window, far too close in fact. It had swelling buds in spring, flowers in May. Sometimes it had a few apples, for it was an apple tree, and I remember being given one with a flourish worthy of a pearl necklace. The tree brightened the last years of her life.

The tree had many enemies, insects curled the leaves, discolored the bark, ate the fruit. A two-legged one with pruners and saw was going to straighten the old thing. They never got a chance to touch it until the lady passed away. The new owner had men of science and some less so, work on the tree. It was finally removed. None of them ever saw in the tree what my friend's artistic eye had seen in it.

DEBOER.



## A PEEK AT THE MAIL

PROFESSOR J. V. K. Wagar, head of the Forest Recreation and Wildlife Conservation Department of Colorado A & M College has offered these suggestions, following the request of some months ago, for the views of our members:

"Dear Fred,

1. Publish the GREEN THUMB every two months instead of monthly. THE COLORADO CONSERVATION, THE NATIONAL PARKS MAGAZINE, THE LIVING WILDERNESS, and other organs of good but small organizations do this with apparent effectiveness and savings.

2. Define a platform in support of worthwhile Colorado and National conservation measures, and print briefly in every other GREEN THUMB.

3. Hold a joint meeting with the Society of American Foresters upon occasion to integrate interests and support essential to the two organizations. If interests are too diverse let's arrange to have the local section of the SAF invite officers and SAF members of the Colorado Forestry & Horticulture Association to discuss past history, present usefulness, and needs.

Let **GEORGE and SUE** show you how to save half on your fertilizer bill. The fertilizer requirements are also "Different" in the Rocky Mountain area, and popular brands made for Eastern conditions are not always economical for use here.



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This would be a place to solicit interesting forestry articles for the GREEN THUMB.

In regard to time to read, we who garden seem to have more reading time in the winter when there's only snow to shovel, no travelling to do, and no garden to conform to.

Sincerely,  
JACK WAGAR".

Here is a nice letter from Mrs. E. R. Callahan, 1921 Cherry Street, Denver. Can someone in East Denver arrange to take Mrs. Callahan on this summer's garden tours?

"I do enjoy the Green Thumb and try to read each and every copy from front cover to back cover. Enjoy "Cherry" very much. Think your December issue with the index is a very good idea. I keep all my copies for reference and this index will be a great help. Am enclosing a couple of snaps showing my yard (small part of it) (50 x 125) and myself on my 81st birthday, gathering wine grapes on the side and roof (kitchen) of my home. Live alone with my cat, do all my work except the mowing and very heavy pruning. Send a year's copies to my grandson who has a new home.

Sincerely,  
MRS. E. R. CALLAHAN."

July and August are lazy months in the garden. At least that is a natural inclination. You can plan a garden for easier maintenance at this season and have more time to enjoy your friends. This is a good time to get out on the many Garden Visits and Tours, and see how the other gardeners do it.

## Our Climate is the Best?

A freeze that causes the rocks to splinter;

Then a warm chinook in the middle of winter.

March blizzards are fine, but all may be lost

When in May or June comes a late, late frost

The summer garden is quite undone.

With cloudburst, hail, or a scorching sun,

When droughty years are decreed by Fate

We may water only from six to eight.

And yet, our gardens have stood the test

And we wouldn't trade—for our Climate is Best!—E. H. P.

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# *The Green Thumb*

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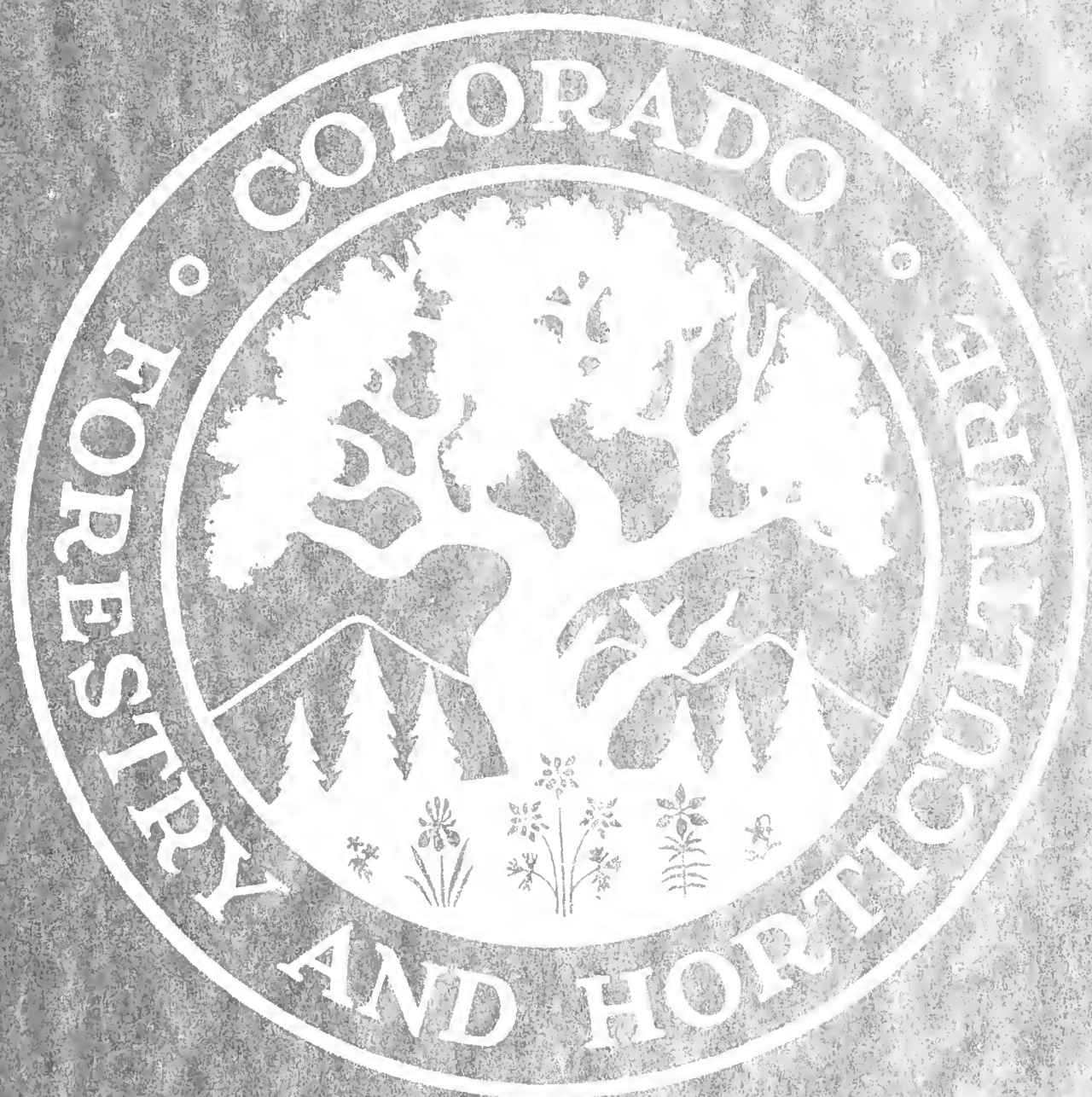


September, 1955

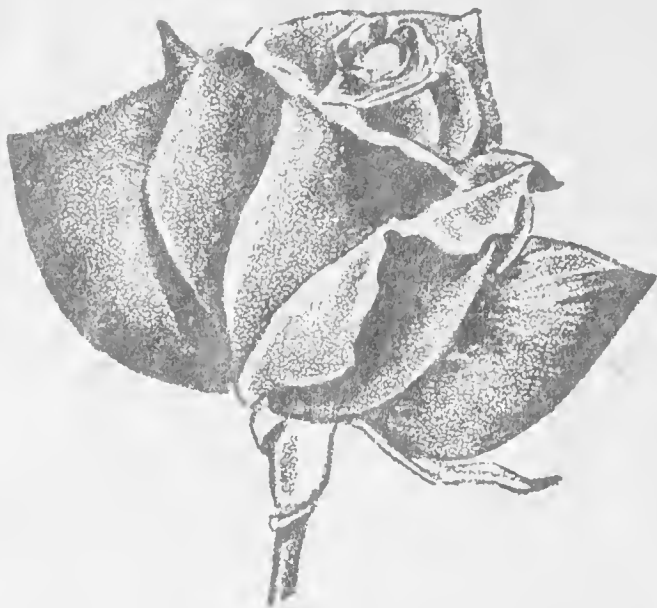
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# The Green Thumb

Vol. 12

SEPTEMBER, 1955

No. 7



## Colorado Forestry and Horticulture Association

Organized in 1884

"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

### OFFICERS

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Honorary Presidents.....Mrs. John Evans, Fred R. Johnson  
Vice-Presidents—Mrs. A. L. Barbour, Mrs. R. M. Perry, Mrs. George H. Garrey, Lemoine Bechtold, M. Walter Pesman, Earl Sinnamon, Mrs. J. J. Waring, Mrs. Frank McLister and Dr. Moras Shubert.  
Secretary-Treasurer.....Spiro L. Nickolas  
Editor.....Patrick J. Gallavan

Proof that some of our members are well-known comes back to us in many ways. This compliment on M. Walter Pesman's book was found in the Alpine Garden Society Bulletin which is printed in England.

"If anyone is interested in a beautifully illustrated and really unique book on the Rocky Mountain flowers and shrubs, he should write Mr. Walter Pesman, 272 S. Humboldt Street, Denver, Colorado. It is called *Meet the Natives* and is by far the best thing of its kind I have ever seen and sells for about 8 shillings."

This excellent book is also available at Horticulture House.

## HOURS AT HORTICULTURE HOUSE

8:30 to 5:00 P.M., Monday thru  
Friday.

## CALENDAR OF EVENTS

Sept. 14—Look and Learn Garden Tour.

Sept. 23-25—Denver Garden Club Show. Denver Art Museum "Living Art in the Art of Living."

Sept. 28—M. Walter Pesman's Landscaping Class, University of Colorado Extension Center.

## Dr. Belknap Receives Appointment

The Editorial Committee wishes to congratulate Dr. J. Harrison Belknap on his recent appointment as Manager of Welfare with the City and County of Denver. Dr. Belknap's article, "A Garden Waterfall" in our last issue of the Green Thumb, has brought many favorable comments.

PATRICK J. GALLAVAN.....Editor    MRS. HELEN FOWLER.....Librarian  
MELANIE BROWN, Asst. Editor and Librarian  
MR. AND MRS. SPIRO L. NICKOLAS, Custodians

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## THE COLORADO FORESTRY AND HORTICULTURE ASSOCIATION

A non-profit, privately financed Association.

1355 Bannock Street

•      Denver 4, Colorado      •

T A bor 5-3410



Mrs. Cornelia Gray Evans, widow of William G. Evans, and a member of a Colorado pioneer family, died on July 10 at General Rose Memorial Hospital, at the age of 91. She came to Colorado with her family in 1875, was married to Mr. Evans in 1883, and has lived in the family home at 1310 Bannock street for 67 years.

At the time it was built the Evans home was a show place of Denver and Mrs. Evans took great pride in maintaining her home and garden as such, over the years. It was, therefore, quite natural for her to have a deep personal interest in Horticulture House when it was established in the same block in 1947. She was particularly interested in the development of the horticulture and garden library and contributed liberally to it as well as to other activities of the Association.

As a daughter-in-law of Dr. John Evans, territorial governor of Colorado and founder of Denver University as well as of Northwestern University in Evanston, Illinois, she was a link between the pioneer settlement of the state and the present era. She maintained the traditional interest of the Evans family in the educational and civic development of Colorado and Denver, which continues to be carried on by her family.

In her passing, we salute a truly great pioneer woman of the State.

## STATE PARK NOTES

At a meeting of the Colorado Park and Recreation Board held during the latter part of June, the appointment for Everett J. Lee as Interim Park Director was approved, and the necessary recommendations to the State Civil Service Commission were made. The board requested Mr. Lee to make a survey of state park possibilities and needs, paying particular attention to the eastern half of the state. The matter of cooperation from towns throughout the state and from state organizations, such as the Game and Fish Commission and the State Highway Department, the possibility of donations of areas suitable for parks, are also to be studied and presented to the board in September. The board also requested the state park advisory council, whose chairman is Professor J. V. K. Wagar of Colorado A & M College, to continue. Members of the board said that they will need all the assistance they can get from groups such as this.

FRED R. JOHNSON.

We are happy to welcome Willard N. Greim as manager of the new Department of Parks and Recreation. He is well-known to many of us in the many capacities having to do with recreation for Denver.

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## BELLS OF IRELAND WITH ROSES

**O**UR arrangement\* this month was chosen to show the effectiveness with which you may use Bells of Ireland in an arrangement. In the May issue of the Green Thumb, we listed this annual as one to grow for this purpose.

The soft green coloring is beautiful in many combinations, but the one pictured is featured with hybrid tea rose, "First Love"—a soft pink. In handling Bells of Ireland the warmth of your hands, enables you to shape the spikes into many different positions, and the one most suitable to fit your plan.

This plant, an annual planted from seed in the early spring is equally at home in the garden and always brings much comment. The stateliness of the green spike completely covered with green bells blends well with other foliage, and at the same time adds interest and variety.

---

\*This arrangement was contributed by Mr. and Mrs. Ray Turnure.

## LIVING ART IN THE ART OF LIVING

The Denver Garden Club, in co-operation with the Denver Art Museum, will stage a fascinating new show, called "Living Art in the Art of Living", at the Denver Art Museum September twenty-third through September twenty-fifth, with a gala preview party, by invitation, on the twenty-second, for the benefit of the Botanic Gardens in City Park.

Rather than put on an old fashioned flower show as was first suggested, the Garden Club of Denver decided to be more ambitious and the members will do a series of rooms, formal and informal, using furniture, draperies, rugs, and other objects from a number of sources, including the fabulous and exciting store-rooms of the Museum.

There will be suitable flower arrangements in each room, as well as a number scattered about the Museum.

The theme of the show "Living Art in the Art of Living" has been

subdivided into three groups with rooms appropriate to each group as:

Group I. Daily Living

Group II. Home

Group III. Vacation Interlude.

To whet the reader's desire to attend this exciting show, I will list some of the rooms to be exhibited: An eighteenth century living room, a Victorian nursery, a modern living room, an herb kitchen, an eighteenth century hall, a Polynesian room, a "contemporary vacation interlude," a period dining room, a terrace room, a flower pantry, a sun room, and a contemporary dining room.

There will be exhibits of tables, suitably decorated for special occasions including a table for eight, a buffet table, and a luncheon table.

I am sure that the combination of interests which this show will include, will serve to attract many who would not otherwise attend a show purely for arrangements.

---

### Seasonal Suggestions For September

1. For localities such as Boulder, Denver, Grand Junction, and southward at the lower elevations, early September is a good time to put in new lawns. There is ordinarily enough time before cold weather for the bluegrass seedlings to get established, if there is enough water available to bring them through.
2. If applied early in the month, it is not too late to give bluegrass a last top-dressing of a nitrogenous fertilizer, well watered in to the soil. But it is probably not advisable to do this after the middle of September.
3. This is a good time to get the indoor window garden going for a lot of pleasure for months to come. Get some new species and varieties of pot-plants this year for added interest. Also repot some of those old plants that are beginning to look a bit "moth-eaten".
4. For suggestions on other outdoor work, refer to the points listed in the article, page 6, on "How to Cope with Our Peculiar Climate".

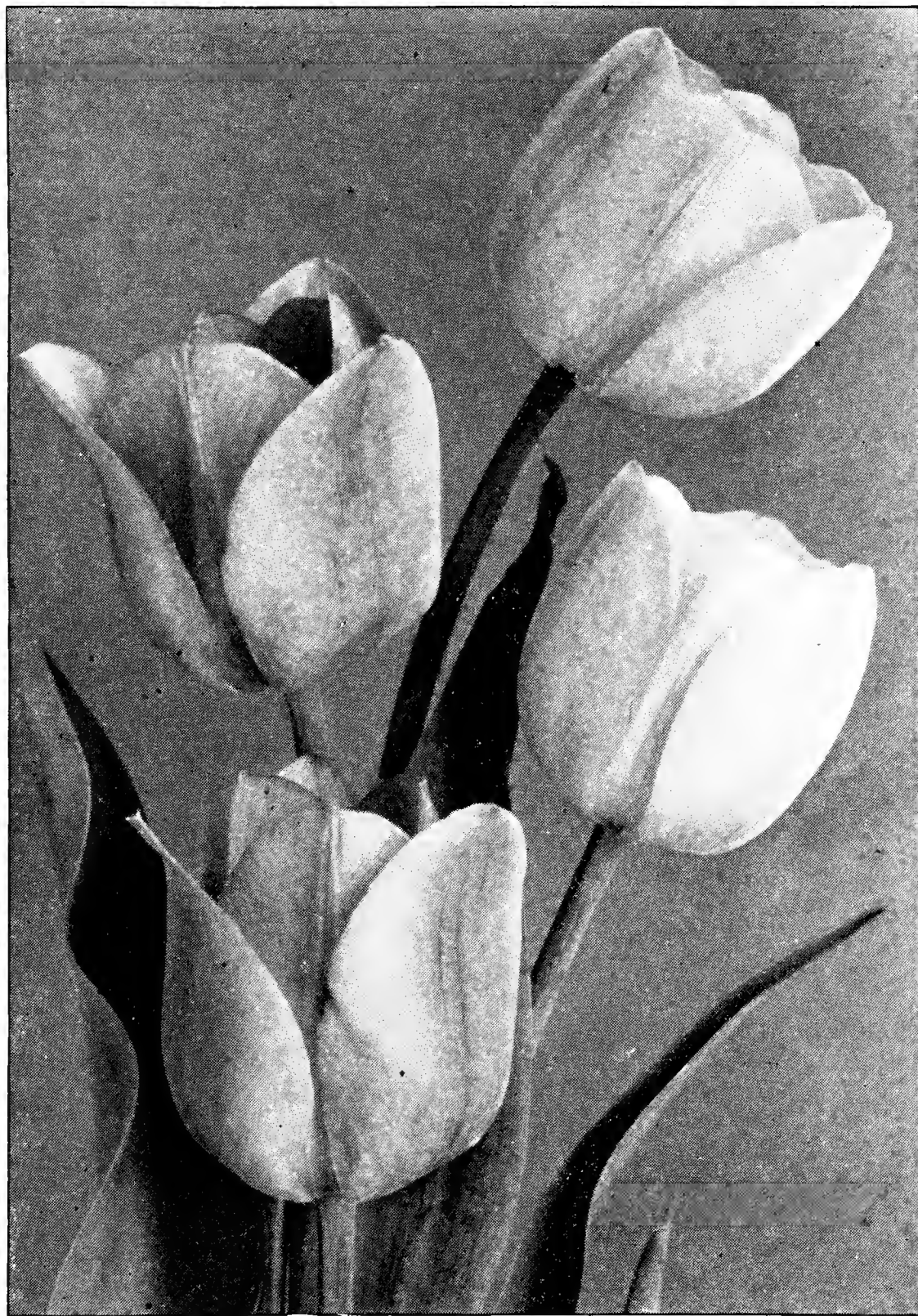
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The biggest single kindness you can show your lawn is to cut it no shorter than 1½ inches.



# TULIPS, THE MAJESTIC ORNAMENTS OF SPRING

By HELEN FOWLER



**T**HE garden is the province of the amateur, the one place where he can indulge an unrestrained, creative instinct with comparative safety. Errors, which would be disastrous to other type of activity, can be left with impunity in the garden to be

erased by the concealing hand of Nature.

For the beginner there is no group of plants like the Tulips; they are easily grown and when properly planted they make one of the prettiest pictures of the whole year.

Since they bloom early they are sure to encourage the new gardener.

#### KIND OF BULBS TO SELECT:

In buying tulips, where they can be looked over, those that are plump, firm and sound at the base should be selected; shriveled bulbs have lost much of their vitality. As a rule the larger and heavier the bulbs the better, but perfectly satisfactory results are to be had without paying too large a premium for extra size.

Tulips come in all shades—lavender, purple, pink, rose, mahogany, red, yellow, orange and white. With such simple plants as forget-me-nots and pansies it is the white tulips that produce the nice effects. The May-flowering, Glacier, White Giant and Mrs. Grullemans are some of the best whites.

There is nothing showier in the garden than tulips. They must be planted in the fall and they will continue to come up for four years, more or less, if undamaged by poor drainage, rodents or disease. The species tulips (the wild kinds) seem to be better for planting in the rock garden; the earlier kinds, are too early for Colorado; the Cottage, the Breeder, and the Darwins are best for this area. In planting any of these, be sure you do not kneel on the wet ground; a piece of plywood about the size of a kitchen chair seat, filled with soft packing on one side and covered all over with oilcloth makes a fine, protective kneeling pad. The beds should be gotten ready a few weeks before planting time so that the ground will settle. Spading should be done about two or three weeks, before the first heavy frost. If planted too early the bulbs might be encouraged by our frequent Indian Summers to start growing in the face of winter. With a background of Purple plum the pink rose tulips are

effective, while purple, lavender and white make a pretty association with either the common or the hybrid lilacs. In a long perennial border what would be equal to using all of the colors—starting with a group of white, followed by pink and a touch of rose, continuing with lavender and a few purple; then yellow and orange and separating the middle line of red with another group of white. Now, what shall we plant in the border with tulips — that is, what blooms at the same time; Arabis, with its gray foliage and white bloom, Alyssum for the needed yellow, especially *A. citrina* since it is a softer color than the regular Basket of Gold, Iberis, grape hyacinth, violas and Phlox subulata. For taller plants, Anchusa myosotidiflora, the Siberian forget-me-not, Trolius, and where there may be a bit of shade, violets, Vinca, Ajuga, and to top them all, primroses. If you should decide on but one of the above, by all means make it the primrose.

In planting, set out the bulbs in their proper position on the surface of the soil, every one should be placed before even one is planted to be sure of your planned picture. Dig the holes 5 or 6 inches deep. A handful of sand should be placed under the bulbs if the soil is heavy. Now cover the bulbs with the soil and water well. It is important to water the soil thoroughly enough for the moisture to sink down to the bottom in order to produce quick development of roots. Tulips make a prettier picture if planted all through the perennial border instead of simply in rows on the margin as is so often recommended.

Only thoroughly decayed animal manure should be used, otherwise there may be rotting of the plants or in some cases disease may develop.



The manure must never come in contact with the bulbs and there should always be a clean layer of soil between the manure and the bulbs.

To sum up as a special help for the new gardener; be sure the soil is loose and friable with fertilizer thoroughly mixed in, but be sure no fertilizer is close to the bulbs. Set out bulbs in the fall, 5 or 6 inches deep with sand at the bottom, if heavy

soil. Late October or early November is about the best planting time for Colorado. Early planting is likely to start bulbs into top growth which our cold winters would kill. The first watering should be heavier than later.

There is nothing more now to do except to dream of TULIP TIME. "A garden is a lovesome thing." Plant tulips this fall for a blithesome May.

## BOTANICAL TULIPS

*The Kinds that are Different and Why We Should Know Them*

HELEN FOWLER

ALL tulips are of the lily family; 60 are species and there are thousands of garden forms, which we know as Early, Darwin, Breeder and Cottage.

The Botanical Tulips are the species tulips, they are the wild tulips-botanical. Wild and species tulips are one and the same.

These species tulips are not particularly adapted for use in the perennial border; but no bulb or plant is more suitable for the rock garden. They might be used, however, in a small border where red predominates. (See article on Naturalistic Spring Bulbs by M. Walter Pesman, p. 9).

Wild tulips bloom here in Colorado as early as mid-April and they are the only kinds to begin blooming in the early season, and of course this early bloom is most welcome in the rock garden.

The following are the most satisfactory of all botanical tulips:—

**BIFLORA** — small, white flowers, delicate and carried several on a stem.

**CLUSIANA**—often called, "The Lady Tulip"—12 inches high. A mass planting of these were seen at the

International Flower Show in New York, where they created tremendous enthusiasm. It is lovely massed on a bank with Narcissus "ELVIRA" with broad white petals and golden yellow cup edged with orange.

**CORNTA STENOPETALA** — beautifully-formed flowers, looks like a parrot tulip but head held high on tall, stiff stems. Scarlet and gold.

**DASYSTEMON**—dwarf and especially good in a rock garden or in front of or below evergreens 6 inches, spreading over fine foliage; its cup is like a star, yellow with white lights, several on a stem. Lovely with Chionodoxa lucilliae, Muscari and the blue Scilla siberica.

**EICHLERI** — a grand tulip from Turkistan, producing an immense crimson-scarlet flower with glistening black center, marked with gold.

**FOSTERIANNA RED EMPEROR**—if you like red, here it is, a vivid scarlet with large black center and yellow border. 18 inches high and might be planted in front of tall evergreens.

**GREIGII**—One of the most gorgeous of tulips—orange scarlet, goblet shaped. Makes a most attractive

planting with a ground work of Chionodoxa. This tulip prefers a hot, dry situation and with all its beauty it is sometimes disappointing, producing no bloom. 9 inches tall.

**KAUFMANNIANA** — not only one of the finest of the botanic group but one of the most beautiful of all tulips; large creamy flowers, marked with carmine; yellow center. It opens flat and is carried on a stem less than a foot high. Plant large masses under deciduous shrubs or evergreens. It likes a little shade.

**LINIFOLIA** — One of the most suitable for the rock garden. It is dainty and of a fiery scarlet. If you have evergreens and they are dark green, this is the tulip for planting at the base front.

**PERSICA** — Only 3 inches tall; fragrant with yellow flowers, bronze on the exterior.

**PRAESTANS**—Early. Two flowers to a stem. Orange and scarlet.

**SAXATILIS** — Quite different from the others as it is lilac in color with yellow base. 9 inches tall.

**SPRENGERII** — Beautiful and showy, especially planted in drifts along evergreens. The latest to bloom. Large flowers, carried artistically on an 18 inch stem. In color, fiery orange and scarlet with outside petals of soft buff and orange. Golden anthers.

**SYLVESTRIS**—Flowers very interesting of a lemon-yellow color.

And now a very scarce tulip. **VIRIDIFLORA praecox**, a charming variety and nice for cutting and arranging with yellow or pink tulips.

Gardeners, especially the new home owners, should try a few of each of these bulbs to see how really beautiful they are. Very few know this exciting group of bulbs. Do you?

For safety with pesticides, read all the print on the container to know how to use the dust or spray safely as well as effectively. Label containers of toxic materials conspicuously. Keep them out of reach of children and pets. Sprayers and dusters, used to apply these chemicals, also should be put out of reach of youngsters promptly after use. Any container, such as a pail, used in mixing insecticides, should be thoroughly washed with hot soapsuds afterwards. The "washings", or any leftover insecticides to be disposed of, should be flushed down a sewer or dumped into a hole and then so well covered with earth that children, pets and birds—chickens included—won't get to them.

Mr. and Mrs. John Ratigan of 5555 West Ohio have some mixed iris rhizomes to give away to those who are interested. Five will be given to each person for as long as they last. Mr. and Mrs. Ratigan used to grow iris commercially.

Turning under large quantities of non-nitrogenous dry organic matter causes a temporary shortage of nitrogen in the soil, which may be serious for garden crops. It can be avoided by adding a nitrogen fertilizer along with the organic material.



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# NATURE DOES NOT PLANT THINGS IN ROWS—OR NATURALISTIC SPRING BULBS

By M. WALTER PESMAN, *Landscape Architect*

“SHOULD a garden be an improvement over Nature?” This is a question that has bothered garden lovers ever since the “naturalistic” type of landscaping was first proposed in the beginning of the eighteenth century. Not until man perceived the beauty of nature did our gardens change from straight lines, formal planting, and man-made designs.

This appreciation of nature “in the raw” came to the Orient much, much earlier, as reported by the monk Odoric, who went to China in 1325. England was the first country to apply it in its gardens, and now most countries have both “formal” and “informal” gardens. It is mostly a matter of degree: to what extent is our garden predominantly “man-made”; where do we allow nature to take the lead?

Tulips and other spring-flowering bulbs have mostly been used in formal beds, planted at set distances. Even when planted in so-called informal borders — in drifts — the general effect is man-made. How can we achieve a more natural result?



There is a much-quoted method for planting in line with nature's arrangement. Applied to tulip bulbs, for instance, it goes like this: gather up fifty or more bulbs in a wicker basket, stand close to the place where you want them planted, then with a deft semi-circular motion throw them all out in one zoop, and plant each one exactly where it lands. Some will fall close together, others will roll on for a distance, the farthest ones may be very scattered; no matter, that is the way nature itself scatters its seeds and plants. It will be effective.

Don't worry if some bulbs are crowded, let them come up like that. (Did you ever examine carefully how nature's own “drifts” are made up?)

Incidentally, this method of planting is quite satisfactory to the artist-gardener, who insists that his flowers be arranged in the garden with the same nice feeling as they would be in a table arrangement. A “drift” in the flower border corresponds to the “spray” idea in an unsymmetrical bouquet.

Carrying through this same idea, why not have a “repeat” in your de-

sign: the same tulip might be used in two or three spots, with the proviso that the spots are of varying size and shape. It catches the eye pleasantly and it provides color without monotony.

So far we have talked about bulbs in the border. There is no reason why they should be confined to the border proper. Some of the most satisfying effects can be had by groups of bulbs that seem to come up as volunteers in the most unexpected places. I am reminded of a little cluster of Clara Butt tulips that peeked around a few spirea bushes, most effectively. And where was it that I saw a compost heap virtually invaded by an army of grape hyacinths?



*Siberian Squills*

One of the most grateful bulbs in this naturalizing is the little Siberian squill (*Scilla sibirica*). Once you have it started it will spread in the inimitable manner of nature. I planted a few among a neglected shrub bor-

der of coralberries, Japanese barberries and Flowering Almond. The first year I was careful not to disturb them. Now I pay them no heed and they have spread over a radius of twenty feet. Evidently their seed is actually propelled on ripening, at least it is coming up in the most unexpected places just where I want them most. Shade seems to be no obstacle, since it comes out so early in spring.

Much more difficult to get established, but eminently worth the trouble, is our Snowdrop (*Galanthus nivalis*). It must have shade even in less sunny climes, and in Colorado is not too happy unless it is planted in a woodsy area, possibly with some soil acidity.

Once we have had success with this idea of acclimatization of bulbs, we are prone to try it with various kinds of bulbs. Usually the result is good—as long as we keep our good common sense. I'll never forget one case where I was carried away with the idea of a large mass of yellow daffodils in a naturalistic setting, among cottonwoods. The fact is I had seen beautiful pictures illustrating just that. It was like a dream,—that is, the picture was.

Our reality was devoid of all satisfaction. Yes, the daffodils came up, hundreds of them. But just at the time they were at their best,—here were not hundreds, but thousands of dandelions competing with them: the same color, the same season. I found out how a dog feels when he slinks away with his tail tucked in.

Another nice idea in theory does not work out too well in reality, namely dotting a lawn with crocus, in the pleasant English manner. It works all right for one spring in Colorado. We are too lawn-minded here to allow our crocus to complete their





Group of Crocus

growth in an unmowed lawn, as they do in England. Keeping the lawn trim cuts the crocus foliage and the new bulb does not have time to form. The result is that we have to add another couple of hundred the next fall if we want to realize the picture in our mind. That is rather expensive.

On the other hand, scattering crocus at various odd spots is most soul-satisfying. Those first yellow crocus suddenly appearing are making us feel that spring is right around the corner. Then come the dark purple and the other colors, one after the other. Except in the lawn, they'll complete their growth and the foliage will disappear without being noticed. (That is where a narcissus is less accommodating; even if we tie up the ripening foliage in neat bunches, it is far from inconspicuous in a flower border.)

Before mentioning the scores of other less-known spring bulbs, let us

come back to our tulips and narcissus, the good old stand-bys.

It is true that they can be used for staid borders,—the early low tulips are particularly good for that. On the other hand, the naturalistic planting has unlimited possibilities.

I remember one satisfactory planting of tulips where the colors and sizes had been so carefully chosen as to make a perfect gradation from low creamy and yellow, through the medium-sized pinks and reds to the tallest breeders with the dark maroons, mahoganies, and metallic purples. To make it a success, intimate knowledge of the varieties is needed.

Luckily there are few color clashes among tulips! Even the gorgeous Red Emperor is not too difficult to blend with others. (But why not give it a spot all to itself?)

Lately the so-called "botanical tulips" or "tulip species" are beginning to show up in our gardens. They fit our dry climate, since many of them



*Left to right, Kolpakowskyana—Turkestanica—Biflora*

come from dry sunny locations in Asia Minor, Greece, Central Asia, and similar places. Put them in the rock-garden or in warm nooks. Some are merely "cute", others most striking.

Close to two hundred tulip species have been described. Some of the common ones now in the trade are *Tulipa clusiana*, sometimes called "Candystick"; *Tulipa kauffmanniana* or Waterlily tulip; earliest of all, *T. eichleri* with large red flowers and yellow and black center; *T. biflora* with twin-flowers (white); *T. saxatilis* or Cliff Tulip another twinner

with wide-open lilac flowers showing a yellow sun in center; *T. acuminata* or Turkish Tulip with spider-like, yellow-orange blooms; *T. persica* (patens); *T. turkestanica*; *T. kolpakowskyana* — all named after the place they came from originally—and many others.

If you want to get an idea of the multiplicity of these types, take a look at Wayside Gardens' latest catalog. They are shown in color.

Even narcissus has gone in for species. Most of them are smaller and particularly good for rock gardens, some highly amusing.



*Left to right, Persica—Saxatilis—Acuminata*

The following narcissus species are now in the trade: *N. bulbocodium* or Petticoat Daffodil (should be quite popular now that petticoats have re-



*Narcissus*

turned); *N. juncifolius*, with narrow leaves; *N. Triandrus*, known as Angels-Tears, and of course, *N. jonquilla*, the fragrant Jonquil with a number of flowers on one stalk.

(It will take constant hammering on gardeners to make us remember that a jonquil is not the same as a daffodil, but that both are called narcissus).

If you are interested in the numerous spring bulbs,—and who isn't once you have seen them—try them in your garden.

All of them are best in irregular plantings, for — “nature does not plant things in rows”.

## VIRUS DISEASES OF PLANTS NOW EASILY RECOGNIZED

**I**N Holland a staff of 60 girls has been trained to detect the potato virus in the field by an ingenious system. Professor Van Slogteren, the well-known Dutch scientist, discovered it. First you inject the potato disease virus into a live rabbit and let it incubate there. Then blood is drawn from this rabbit to be used as an anti-serum, diluted many times with water and this liquid, just a few drops, added to the juice of the plant to be tested. It is claimed that these girls can deal with 20,000 samples a

day. An infected plant quickly shows its infected juice by changing its normally granular appearance to a flecked or coagulated look upon the addition of this anti-serum liquid.

Gardeners should be interested because the same system can be used for other plant virus diseases. Spot a diseased plant at the beginning and out with it! Thus virus diseases of chrysanthemums, asters, and many other plants may be simply handled.

And so we have to thank the scientist for another “miracle”.



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# HOW TO COPE WITH OUR PECULIAR CLIMATE

## PART 2. AUTUMN TEMPERATURE

AS gardeners, we are apt to look forward to the approach of the Autumn season with mixed emotions. We look at our beautiful Fall flowers and think sadly that soon they will be gone, but after a moment's further thought, we happily remember the beauty of the fall colors when the leaves turn and the many other beautiful colors and forms of the winter landscape. Perhaps the most rewarding experience of the whole gardening year is the one which most city gardeners are robbed of, and that is the satisfaction of harvesting and storing fruits, vegetables, and nuts for the winter. There is a feeling of security, comfort, and achievement in such activity which must be actually experienced to be appreciated.

But all of us, whether or not we have a fall harvest to think about or a fruit cellar to fill, will have to make certain provisions for the safety of perennial plants, herbs, shrubs, and trees, if we want them to go through the winter in good shape. And an understanding of what goes on inside the plants during this period will help us to give them the protection and care necessary.

During the early Fall, as the nights become progressively longer and cooler, our perennial specials of all kinds will store in their tissues greater amounts of sugar, starch, and other kinds of food. This food, manufactured during the daylight hours, will be saved up for the long pull ahead until the leaves are replaced in the spring. Besides acting as a savings account, these chemical foodstuffs also will help to protect the tissues that

live through the winter from injury caused by freezing and drying.

In addition to the storing of materials, as just mentioned, the living cells of our perennial species will become comparatively drier under natural conditions. We have to keep this in mind and not supply too much water during this normal "drying down" period.

Combining these two effects, food accumulation and drying down, the plants attain a quality which we call *winter hardiness*. We must be careful to provide the right "climate" for the full development of this quality. The following suggestions cover practical ways of "coping with our climate during the fall and winter:

1. Cut down on the use of water and do not use nitrogenous fertilizers, as both water and nitrogen in excess will encourage soft, tender growth.
2. Do not remove leaves by mowing or pruning, since the leaves are needed to manufacture food for storage.
3. Do not try to protect perennials by covering them at night, unless there is a very sudden change to a hard freeze expected before they are properly hardened.
4. Do not apply winter mulches until the ground is cold.
5. When the perennials, trees, shrubs, or herbaceous plants are completely dormant, give the ground a good soaking, just before the first freeze especially.
6. Do not try to keep semi-hardy species warm, but rather shade them, and shade the trunks of



smooth-barked trees to keep them from getting too warm on sunny days during cold weather.

7. Any tender species to be brought in such as house plants, should be brought in before the temperatures start dropping down into the "40's" at night. Many people forget that some plants of tropical origin, will suffer from chill even though they have not suffered frost.

It may seem strange that we haven't discussed the dates of expected frost for various localities. If we want information as to the times when frost has occurred in various localities since weather records have been kept, there are two excellent summaries available in the Helen Fowler Library at Horticulture House. The first reference that must be mentioned is the United States Department of Agriculture Year book for 1941, entitled "Climate and Man", and the second is the Colorado Yearbook, 1951 to 1955. But since there is so much variation from year to year in the time of the first killing frost, the best plan for the gardener is to keep posted as to the weather forecasts and to keep a sharp eye on weather signs that indicate threat of frost.

Since the first killing frost is frequently followed by a period of mild weather, it often pays to cover tomatoes and other tender annuals. For

this purpose, any insulating material spread over the plants sufficiently to keep in some of the day's heat, will provide the necessary protection. Old newspapers work quite satisfactorily.

Now let's go out and begin putting our gardens to bed for the winter.

If there are still one or two things about gardens you *don't* know, you may want to join a number of others like you in a class on *Landscaping* (advanced) starting September 28 at Colorado University Extension, 1405 Glenarm, Wednesdays from 6 to 7:40 p.m. conducted by M. Walter Pesman, the landscape architect. It will be one of those classes that are both helpful and good fun!

### REPLANT AMERICA

Hundreds of thousands of newer homes need landscaping. Yes, but as many more of our older homes need re-landscaping. Planted years ago, with trees and shrubs that are now too tall, these places present an overgrown, even wild appearance from the street. Owners are deprived of the best use of their yards, and living in the darkened rooms must be on the depressive side. Not only do we need to PLANT AMERICA, we need to REPLANT AMERICA.

Gardening promotes family unity. As a family activity and hobby it is unexcelled. It brings all members, old and young, together in something that is interesting and educational to each one.

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## PEONIES

MRS. M. J. WEBBER

**W**HEN our lawns and trees and shrubs have been established, let us turn our attention to peonies. To the flower lover, nothing could be more rewarding.

Since a peony planting may endure for generations, without disturbance of the plants, it is essential that careful consideration be given to location. It is better not to plant too near to buildings, where masonry walls absorb a good deal of moisture, and reflection of light may be too strong when temperature is high. Do not plant too near shrubbery or trees—having in mind the ultimate spread of the trees. Half time sun is desirable.

Of course drainage should not be overlooked. Let the soil be a good garden variety—free from animal fertilizer. It is thought that a heavy

loam, rather than a lighter loam, will produce better plants—stronger stems and better flowers.

When preparing the soil, dig deep, and if fertilizer is needed, mix a handful of bonemeal with the soil—not allowing the fertilizer to come in direct contact with the plant.

The best plant to buy is a three to five eye division, and the most suitable time for planting—from late September, on through the fall, while weather is favorable.

Allow nine square feet for each plant, and try to have the surrounding area slightly moist at time of planting so the root will not be robbed of the moisture intended for it.

Dig a hole of ample size, place the root so the topmost live bud will be one and onehalf inches below the

permanent surface. Fill in around and above with well pulverized soil and water thoroughly, not allowing the root to sink below the desired level.

Additional bone meal may be used each year or alternate years in the fall. Sift it around the plant a little distance from the stems, and cultivate it in, lightly.

Do not allow flower buds to develop the first year. There must be time for root growth if we're to expect a strong plant. Full bearing will not be attained for three or four years.

In cutting flowers, do not cut the stems too long. Be sure to allow a few leaves to remain on the plant for development and for appearance. Peonies are attractive for their foliage—the deep green of summer and often times bright autumn coloration.

The blooming season extends over a period of eight or ten weeks beginning with the single *Tenuifolias* in early May and terminating toward mid-July with the latest varieties of *Chinensis*. The length of season is governed not only by varieties selected, but by character of soil, exposure, and of course by weather conditions.



*Double Peony*

Selections may be made from *Tenuifolias*, *Officinalis* and *Chinensis* — the latter in singles, semi-doubles, doubles, and the Japanese type. There are numerous species peonies.

When asked to name our favorites, we cannot. There are too many. Among the Whites we would always include *Festiva Maxima*, a very old variety, high rating, and still one of the best. We like *Alice Harding*, *Nimbus*, *Kelway's Glorius*, *Priscilla Alden*, *LaJour* (single), *Isani Gidui* (Japanese).

In Pink, the following are excellent: *Therese*, *Mons Jules Elie*, *Walter Faxon*, *La Perle*, *Ella Christianson*, *Kelway's Queen*, *Helen* (single), *Tokyo* (Japanese).

Always popular Reds: *Philippe Rivore*, *Officinalis Rubra*, *Mons Martin Cahusac* (darkest), *Cardinal*, *Longfellow*, *Kewanee* (single), *Diadem* (Japanese), *Mikado* (Japanese).

The above carry high ratings, and grow successfully in this locality.



*Single Peony*

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## MY WOODLAND GARDEN

GUY FOX

**I**F you are a native of Colorado, you probably will not be interested in this report. But if you grew up in Iowa, Michigan, Pennsylvania, or any of the states in that general area and learned to love their woodland flowers—trillium, jack-in-the-pulpit, hepatica, checkerberry wintergreen, yellow adderstongue, trailing arbutus, among many others—perhaps, like me, you have had a yearning to see some of them in your garden.

My first experience was a simple one. Some years ago on a trip to Michigan I brought back trillium, jack-in-the-pulpit, and hepatica roots. Mixing some aspen leaf mould with the sandy soil on the north side of my house in South Denver, I planted these old friends of mine and they did well. I have counted as many as 30 or more blossoms in one clump of trilliums—something I had never seen in the woods of Michigan.

When, in 1948, I moved to a new home in Wheat Ridge where I had somewhat greater facilities for gardening, I aspired to do more with a woodland garden. Perhaps it might help other beginners if I describe briefly some of the fumbling I went through in experimenting with this project.

Up to this time I had been unaware of the concepts of acid and alkaline soils. My gardening lore had come largely from helping my parents on our Michigan farm some 50 or more years ago, and I had been long out of practice. I knew the muck and leaf mould of Michigan woodlands and knew that they had certain values in improving garden soil, but there my insight rested.

One of my first enthusiasms in the

new location was to have some blueberry bushes, described in the nursery catalogues. But they talked about the necessity of acid soil and gave brief suggestions on how to get it. This started me on a long trail of inquiry and exploration, not at all systematic; but an idea picked up here and there from one of the local "gardening experts" or from a magazine article kept adding to my knowledge, and also to my confusion. I learned that one of the chief elements in acid soil was an abundance of humus—peat moss, leaf mould, and pine needles among other things; that certain chemicals could help but that they also had limitations and very definite dangers. Soil tests could be made but they appeared to be troublesome, complicated, and costly. Local "experts" with hardly an exception, had little to offer but warnings and discouragement.

But I had already ordered half a dozen blueberry bushes and something had to be done. This was the spring of 1949. I selected a triangle of ground, a little over 300 square feet, between my garage and house, and began the process of incorporating plenty of humus, providing partial shade, and some wind protection, and then submitting my accommodations to the whims of certain acid-soil plants. Now after six years, giving a bit of attention and labor off and on to my project, here are some of the results:

I have incorporated several cubic yards of peat moss, leaf mould, and evergreen derbis into the soil of my little plot to a depth of two feet. My blueberry bushes are still growing and producing some fruit. Trilliums, hepaticas, and jack-in-the-pulpits are



flourishing. I have two very successful little patches of checkerberry wintergreen. Among others that are getting under way are: yellow ladyslippers, adderstongue, blue Colorado columbine, and twinflower. Two Ghent Azaleas have survived four seasons and one has bloomed the last two. The other may have too much shade. A dwarf rhododendron, *Rhododendron racemosum*, planted the spring of '53, has bloomed beautifully the last two seasons. Several large rhododendrons are growing but have not yet bloomed. Tuberous begonias and primroses like the situation. In one corner, fenced off by a metal barrier, is a mass of ferns. Violets, blue and white, run rampant.

For shade I have two red oak trees making good progress; and, to cut down glare and heat from the brick wall of the house, I have espaliered a Siberian apricot and a peach tree against the house. While these are developing, I have erected a temporary rough lattice shade over the plot. Grape vines on the west fence: Caco, Fredonia, and Beta, run riot and threaten to provide more shade than is needed.

Editor's note: Mr. Fox is still interested in renting his home to someone who will care for his Woodland Garden. Call HArrison 4-6789.

Rather tardily in the spring of '54, I looked in the library at Horticulture House and found real help. The little book, *Growing Woodland Flowers* by Clarence and Eleanor G. Birdseye, is a gem with very specific and simple directions and illustrations. I wish now I had gone to the library in the first place.

The soil seems to have plenty of acidity—too much, perhaps, for some plants. Using the simple technique suggested by Birdseye, I get an acidity index of about 4.5 to 5.0. The loamy soil in my vegetable garden tests approximately neutral. I intend to get an expert's test one of these days to check my own. I keep a heavy mulch over the entire garden of pine needles and the debris accumulated by squirrels under forest firs and spruces.

There appears to be almost endless possibilities in such a project, some relatively easy, some to test the skill of any gardener. As for me, perhaps the best evidence of my pleasure is the fact that when I enter my woodland garden I get an emotional response that seems to carry me back to those woodlands that I loved many years ago.



The Guy Fox Residence

## HOW DO YOU KNOW YOUR GARDEN NEEDS WATER?

M. WALTER PESMAN

SOME of us have used and advocated the "knife-blade" test to find out if our lawn is in need of irrigation. If it is inserted easily, let it go,—if the ground is hard, apply the hose. This is a simple method and fairly accurate.

But in England,—of all places—, they have been working on a more scientific method. They have developed a soil tensiometer. Its principle is simple enough. A porous pot, full of water, is carefully inserted in the soil and connected to a gauge above ground. As the soil dries, water is drawn from the pot into the soil, and the tension set up is measured in centimeters of mercury. So says H. M. Hughes in *Gardening Illustrated* of August, 1954.

Another method is for research workers. A block of gypsum is buried in the soil and attached to an electric circuit. The electric resistance varies with the amount of moisture in the gypsum block which is dependent on the moisture content of the soil.

Naturally the findings of these recording instruments must be coordinated with practical experience and experimentation. But scientifically minded greenhouse men are using tensiometers to help them in watering tomatoes and other crops under glass.

Recently another way of finding out how much irrigation is needed at any time has been studied. It is based on very simple arithmetic. If we want perfect plant growth, we must supply enough extra irrigation to make up the difference between the amount given off by a plant and

that furnished by rainfall. It is as simple as that.

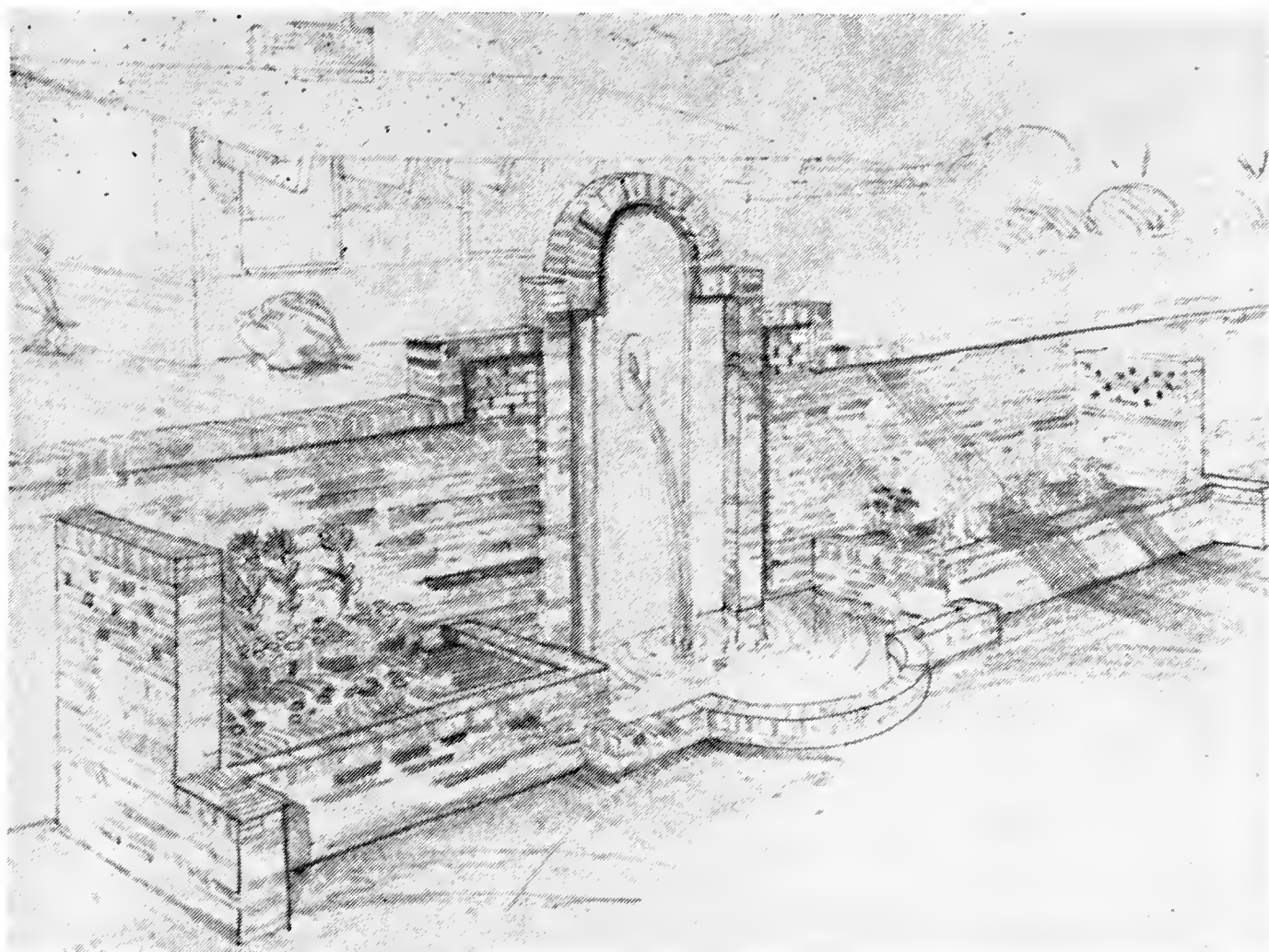
The interesting part of this rule is that the amount given off by our plant is about the same for *any* type of plant. That amount is called *Potential Transpiration*. It can be shown that an area covered with a green crop transpires at a rate irrespective of the crop, provided it is green. A lawn, a field of lettuce, alfalfa, or even a mature orchard, all are losing water at the same rate.

This "*potential transpiration*" takes place over a field of vegetation that has all the water it can use.

Now if we can calculate, every ten days for instance, how much water has been lost due to potential transpiration and how much water has been supplied by rain and irrigation,—lo, we'll know just how much water we need to supply for proper plant growth. Thus we can grow the best roses, the most luscious lawn, the finest tomatoes. Eventually we may get accustomed to using either the *soil tensiometer* or the *potential transpiration* method in order to know for sure just how much water we need to add for proper plant growth. It is a more scientific method than our knife blade test.

Only irrigated fields can hope to get the maximum yield. We have proved to the world what wonders can be achieved by irrigation. Now let's also demonstrate how we can do the trick efficiently, without wasting our precious water.

Thus we can cooperate with our Board of Water Commissioners and  
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## Planning To Add A Garden Feature This Fall

**W**ITH today's trend toward outdoor living, the do-it-yourself home owner has a terrific outlet for his energies in the garden. He may become a carpenter, bricklayer, or gardener, in creating a better atmosphere for his out-of-door living.

The accompanying illustration shows a fountain, pool and planters designed by the well-known landscape architect M. Walter Pesman. This sketch is not printed here for

the amateur to copy, but rather with the hope that it will provoke ideas that the do-it-yourself fan can carry out in his own garden.

In line with this thinking, there are many books here in our library in Horticulture House that are chuck full of ideas and information on patios, fences, walls, garden pools, general landscaping and the like. They are here for your use so drop in and utilize them for making your outdoor livingroom more livable.

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# BRINGING YOUR HOUSE PLANTS INDOORS

HELEN MARSH ZEINER

**N**OW is the time to bring in those house plants you put outdoors for the summer. Even though the days may remain warm for some time, the nights will become increasingly cool and house plants should be brought in before the nights become cold and before there is any possible danger of frost.

If you left your plants in pots, your problems are few. Examine them carefully for insect pests which they may have picked up during the summer. Prune to remove any unsightly portions and for better shape. Some plants will have grown so much that they will need to be repotted because they are obviously too big for the pots they are in. Others may need to be repotted because the roots are potbound. Examine for potbound plants by holding the plant between two fingers, tapping the edge of the pot on a table, and then slipping the plant and soil out of the pot. If the roots have made so much growth that they cover the ball of soil, the plant is potbound. If the roots are white and healthy, merely put the plant in a size larger pot. If the roots are brown and discolored, remove these portions, loosen the remainder, and cut the top of the plant back to compensate for the roots you removed. The plant may now be potted in the same size pot or even smaller pot. A good all purpose potting soil is made of one-third loam, one-third sand or vermiculate, and one-third peat or compost. Be sure to put some pieces of broken pot or a layer of coarse pebbles in the bottom of the pot for drainage. Start the plants into growth

slowly. Put them in a cool part of the house, and do not fertilize until they have resumed growth.

If the plants were set directly into the soil, or if you wish to bring in bedding plants such as geraniums, coleus, or begonias, it will be impossible to take up such plants without disturbing the roots considerably. Because of this, the top must be pruned back severely to compensate for the loss of roots, many of which were young feeder roots of great importance to the plant. It is generally better to take cuttings from plants set directly in the soil. Cuttings taken at this time may not give you any bloom until late winter or early spring, but they will provide good bedding plants for next year. For winter bloom, cuttings should be taken in the spring or early summer. No plant should be expected to bloom both summer and winter.

You may enjoy experimenting with a few annuals. Flowering plants such as petunias, verbenas, nasturtiums, and pansy, or garden herbs such as parsley, chives, and mint, are all worth trying. Take up a strong, healthy plant and prune the top back almost completely. Bring into growth slowly, then place in a sunny window, fertilize, and watch for results. You will generally be rewarded with an unusual plant to enjoy during the winter months.

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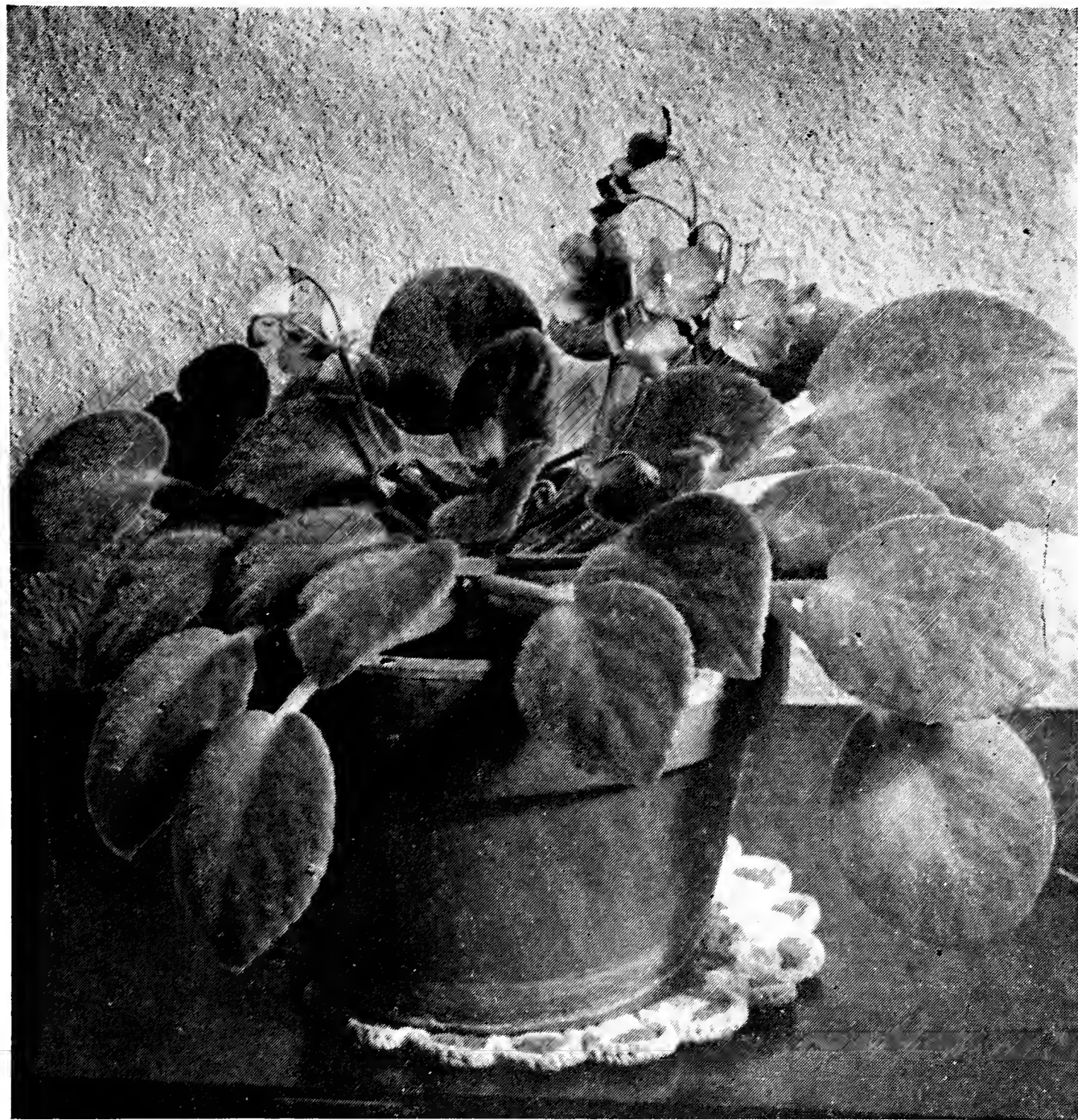
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## AFRICAN VIOLETS ARE EASY TO GROW

JOHN S. CORYELL, *Golden Greenhouses, Arvada, Colorado*

**Y**ES! It is easy to grow African Violets and have them bloom the entire year! The following few words will outline the basic steps necessary to grow African Violets in your home!

African Violets, or Saintpaulia, to the botanist, were found in Africa, and seeds were sent to Germany, where the first plants bloomed in 1893 and 1894. These wild plants

were something new, and since they looked like violets they were called African Violets, and named after von Saint Paul-Illaire. It was not until 1935 that new varieties began to appear in the United States. The first named variety was BLUE BOY. This is still an excellent purple-blue flowered African Violet. The next interesting "break" was the appearance of a pretty green-leaved variety in a

group of Blue Boy plants. Each leaf of this new plant had a large white spot where the petiole (stem) met the leaf blade. Someone remarked that it was a "Blue Boy dressed up," and called it BLUE GIRL. The name stuck, and this new variety was patented as BLUE GIRL.

The descendants from Blue Boy have plain leaves and often this leaf type is called "Boy" leaves. The descendants from Blue Girl still have these fancy leaves, and are called Blue Girl leaves. Now the term "Blue" is often dropped, and thus we have "Girl leaves."

Since this modest beginning, several thousand new varieties have been named and sold, or given away in the United States.

In 1946 the first national society was formed. This society now has over 16,000 members, all growing African Violets. It is now the largest plant society in the world. The American Rose Society is the second largest plant society. Only about one African Violet grower in 10 actually belongs to this national society yet many individuals grow from one plant to several hundred. African Violets are grown in every window of the modern home, and in the basements of thousands of homes.

How can you succeed with African Violets? African Violets need only a minimum of faithful care. These are: dilute sunlight, a porous soil, 60-80° temperature, and occasional watering.

In Africa the African Violet is found on the walls of caves, near the entrances, in deep ravines, and growing in pockets of soil and leaf-mold. When it rains they are watered from above with "room-temperature" water. When it does not rain they are watered by seepage from the soil.

In the homes and apartments of

today they grow most easily in a north or an east window. The summer sun is rather strong and shines into the south or west window too strongly. These windows can be curtained with many types of material, and then the African Violet will thrive in these windows. Many a violet grows behind venetian blinds or heavy draperies during part of the day, but these often shut out too much light and plants will not bloom well in these situations. The wider the windows, the more curtaining material is needed to protect the leaves from the direct sun.

Thousands of plants are now being grown under fluorescent lights, especially where the collector has too many plants for his or her windows, or does not have suitable windows for these lovely plants.

There are all types of fluorescent fixtures and tubes being used successively. I like the standard single fixture which is 48" long and holds a 40-watt tube. I add hooks and suspend this fixture by chains, so that the tube is 9 inches to 15 inches above the leaves. This light is kept on 12 to 14 hours a day. African Violets will grow and bloom very well under these conditions.

The soil is very porous where these plants grow in the wild and therefore this soil should be duplicated in this country. In mixing soil for my violets I use 1/3 Colorado top soil, 1/3 peat (or leafmold), and 1/3 sand by volume. If the soil is extra heavy I sometimes add more humus (manure, peat, leafmold or compost). Since the African Violet is such a slow grower and so highly prized by the owner, I recommend that the soil be sterilized by heat or chemicals to kill all animal life and harmful plant life, where necessary.

Bonemeal or superphosphate should

be added to the soil, and perhaps some commercial fertilizer. I like to use a 2½" flower pot of bonemeal to a bushel of soil. A tablespoon of any commercial fertilizer may be added to the bushel of soil.

If you do not wish to mix and sterilize your own soil you may purchase it from many different sources. I would like to warn you to purchase it from a reliable concern and follow directions carefully. Many soils and soil substitutes are sold which are satisfactory if you learn how to use them, but an African Violet mixture that you know contains soil, will give the best results.

You may repot an African Violet any time you wish. Merely knock the plant out of the pot, choose a larger pot, put some soil in the bottom of it, put the ball of soil into the pot, and fill in soil around the roots until the pot is filled to within an inch of the top. It will not stop blooming unless you separate the several crowns and disturb the plant by this separation.

On watering there are many points of view. Here are a few facts to keep in mind. First, use room temperature water when you water, and you will reduce the spotting of leaves. Second, never water a plant in the sunshine. Move the plant to a table or sink when you wish to wet the leaves. It is either cold water, hot water, or sunlight that causes spotting of the foliage. When you water an African Violet you should water it thoroughly. It may be watered from the TOP or from the BOTTOM. The plant really does not know the difference. If you fill a saucer of water, then you should pour out all water remaining after one hour. The "bottom-waterers" can put in just enough water to be soaked up by the soil. If you are a "top-waterer"

just fill the pot with water and allow it to drain. If the soil is wet or cold the plant does not have to be watered. Wait another day. More people kill their plants with too much water than lose plants from keeping them too dry. The African Violet is *not* a water plant. Many plants need only a good watering once a week—*not every day*. Every home is different and you must learn how much to water your plants.

Insects and diseases occasionally are a problem. If you will use only soil that is sterilized you will eliminate many problems. Many African Violets obtain their original insects from a greenhouse plant or a garden plant brought into the house. Almost all these insect pests can be controlled by using the new aerosol bombs once or twice a month, or whenever necessary. Buy African Violets from a reliable source, locally if possible, and keep them isolated from the other African Violets for 30 days. Any one who buys or sells African Violets is exposed to importation of troubles and has had these unwelcome visitors at some time or other. If they have never recognized them, then they are either lucky or ignorant. We have found mealy bugs on one plant and that was a gift from a "friend". We sprayed it with CHLORDANE using one tablespoonful to a gallon of water, and 44% emulsifiable chlordane which eliminated these bugs.

African Violets grow best when the night temperature is from 60° to 70°. The daytime temperature may be from 70 degrees to 90 degrees. These are the average home temperatures and thus we can grow violets in our home and still keep the house at the temperature we like best. During the summer the high temperatures may cause the violets to stop blooming, but

with the cooler weather of September they will again start to bloom.

A few words about varieties and I will have to close. The range of color, and variations in leaf pattern are very great. Probably the best purples today are Blue Boy, Blue Girl, Merkels' Giant, Blue Queen, Kewensis Girl, and many others too numerous to list.

In light blues, Sailor Girl is still one of the best, then Columbine Blue, Grand Lady, and Periwinkle all of which are lovely.

Among the 150 pink varieties you can choose Shocking, Pink Cheer, Pink Fantasy, Uncle Bob, Pink Girl, and perhaps Georgia Peach as being among the best.

Of the "red" African Violets, Red King is still one of the best. The darkest is Cherokee or California Dark Plum. These are plum red in color. There are no true reds in African Violets. The "flame" violet is a South American cousin and is different from African Violets.

Among whites, the best to date is Snow Prince Select. DeLuxe Snow Girl is another good variety. There

are a few more but they are not as good as the above two varieties, or they are too new to be available to the average grower.

Then we have lavenders, orchid colors, friller or ruffled types, and doubles. The double pinks are the newest addition to the list of varieties. They are so new that there are really no "bests" as yet. However, there are several that I prefer of which Ohio Bountiful, Pink Rocket, Pink Achievement, and Pink Ideal take precedence. There are no yellow African Violets as yet. I have tried for several years to find one but have never met anyone who had one—only several folks who "know someone, who knows someone else who has a yellow African Violet.

There are several books written about African Violets and now there is a quarterly issued by the national society and a monthly called THE SAINTPAULIAN both of which contain latest information about them.

If you need more information about African Violets or their varieties, please feel free to write. I'll try to answer any questions asked.

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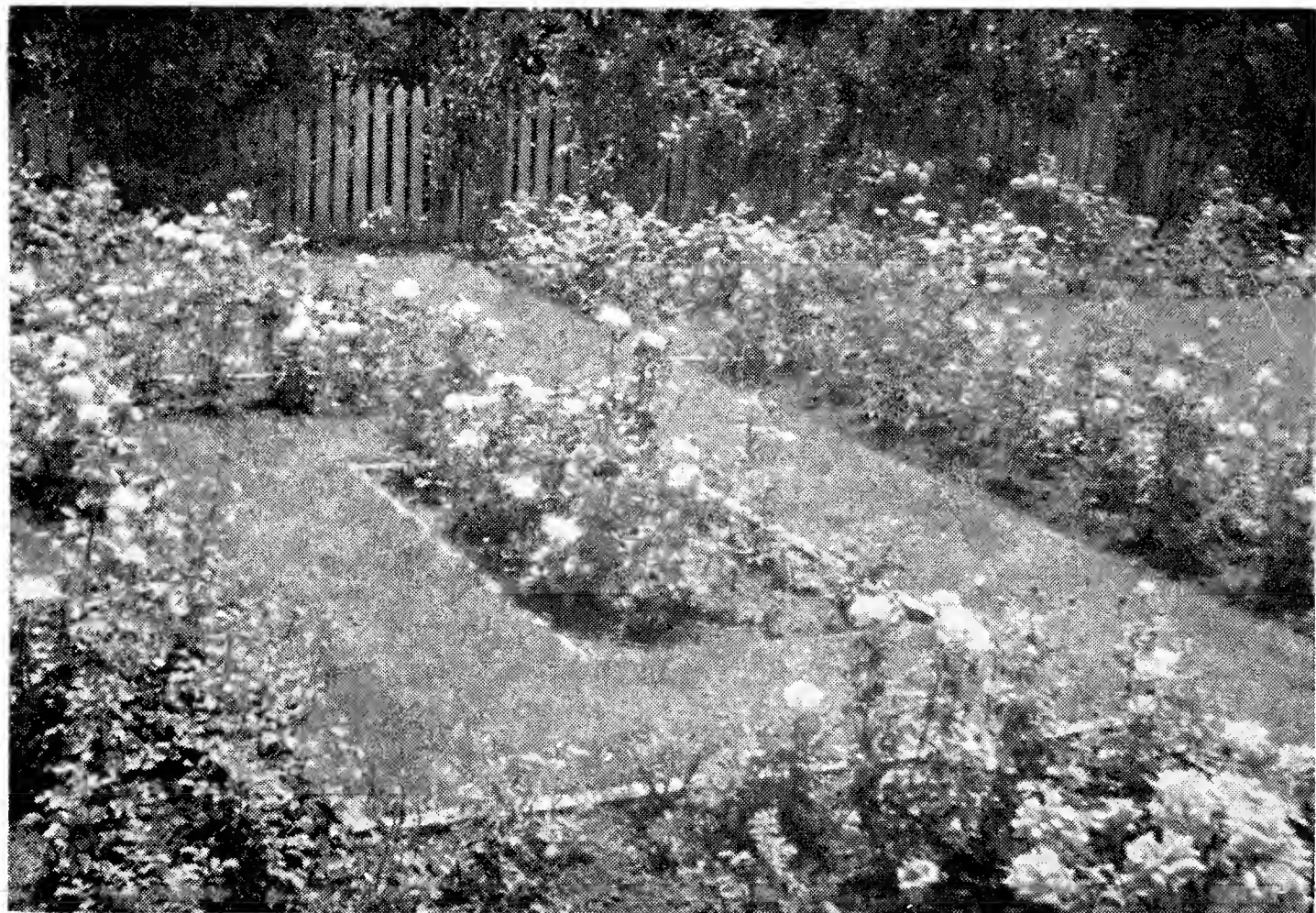
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## “LOOK AND LEARN GARDEN VISITS”

THE pleasures of a garden are many, as those attending the first three garden tours would certainly agree, for those gardens contained many things that would appeal to a good gardener and lover of beauty. The following is but a partial list of features to be enjoyed on these visits: The enchanting rock gardens, the gay annual beds of petunias, marigolds, snaps and others; the exquisite perennial borders, the lovely roses in almost every garden, the screens of shrubs, the foundation evergreens, the kindly shade trees, the different patios and barbeques, the playfully reflecting pools, and the children's play areas.

It is not too late for you to enjoy,

these pleasures, for the final visit of this season is yet to come. Remember the date—September 14, 9:00 a.m. to 5:30 p.m. and make it a must on your calendar. This tour will take you to these gardens full of Autumn beauty:

1. Mr. and Mrs. Robert Stovall  
(roses) 160 Race Street
2. Mr. and Mrs. George Kenmore  
100 Dexter Street
3. Mr. and Mrs. Willett Moore  
875 S. Adams Street
4. Mr. and Mrs. Arthur E. Johnson  
515 Race Street
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## SAGEBRUSH MAY PROVE A GOLDMINE

**W**HEN our Rocky Mountain Botanical Garden, represented by the Botanical Garden Foundation of Denver, develops far enough to have its own research department, there are a number of problems awaiting it. One of them has to do with the uses of Sagebrush.

There is one particular kind of Sagebrush, the Fringed Sagebrush, (*Artemisia frigida*) that may have locked up in itself a number of important products for future manufacture.

Fringed Sagebrush, for one thing, is closely related to the Old World wormwood, from which medicinal oil of wormwood is commercially abstracted, as well as absinthe, an intoxicating liquor.

Not that we need more intoxicating liquors, but in addition it contains a high percentage of borneol camphor and cineol (eucalyptol). These have valuable antiseptic qualities and may well be used for medicinal soaps and scents. Borneol is, moreover, used in the manufacture of celluloid. So our "White Sage" or Fringed Sagebrush may prove to

be a valuable crop plant in the future.

The present supply of borneol is the island of Borneo and the Malay Archipelago; they are a long distance from here. It occurs in masses in a Borneo tree and it is highly prized in the East as an embalming material. F. Rabak, in his book *Wild Volatile Oil Plants and their Economic Importance*, suggests that Fringed Sagebrush may eventually be cultivated as a commercial crop. It certainly will be a "natural" in this region, since it withstands considerable drought, having a deep, extensive root system. Once started you won't have any difficulty growing it. And, incidentally, it isn't a bad-looker; can easily be used as a neat grey borderplant.

Once its commercial use is established, medicinal use of its pollen might follow as a resistance builder to hayfever.

---

### PRUNING EVERGREENS

All too often evergreens are planted about homes and nothing more is done with them. Many of the lower-priced plants are young forest trees, and unless they are pruned and sheared, they grow rapidly and become open and straggly. Proper pruning helps to keep them in better condition.

---

If you are planning a fall lawn you will find the August '54 issue of the Green Thumb very helpful. It is a special number dealing with lawns and gives all the A B C's on how to have a good one. Copies are still available at Horticulture House for 35 cents each.

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"Garden-fresh" means vitamin-rich. The fresher the food, the better the taste, the less the waste.

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### New Books Just In At The Library—

#### GROW THEM INDOORS

By Allen H. Woods, Jr.

#### HERBS, HOW TO GROW THEM AND HOW TO USE THEM

by Helen Noyes Webster

#### HOUSE PLANTS UNUSUAL

Allen H. Woods, Jr.

#### MRS. FOOTE'S ROSE BOOK

A Practical Manual for Rose Growing

By H. Risley Foote

#### THE SCENTED GARDEN

A Guide for Growing Aromatic Plants

By Eleanor S. Rohde

#### THE ROMANCE OF THE ROSE

#### THE ROSE IN HISTORY

By Josephine C. Chandler

## THE JUNIOR PAGE

OLD man winter is sneaking up on us again. Some of us can look back at the beautiful gardens we had last summer. Others of us can only wish that we could have had more water or a greener thumb and then maybe our gardens would not have looked so much like a weed patch.

Well, now that summer is about gone there is no need to forget gardening. There are many plants in the garden which mother intends to bring into the house before Jack Frost arrives. Since mothers are so very busy, maybe a junior gardener can help out, for surely she will be too late again this year.

First of all, a small clump (be sure to get some roots) from the side of that large clump of chives (those onion tops Mom put in soup and salad) will grow nicely if placed in a pot of nice black soil. Parsley also will do well if placed in a pot, and mother just loves to use it around servings of potatoes even if we don't think it tastes good. Both of these plants will look quite cheerful in painted pots sitting on the sill of the kitchen where they can get plenty of light.

Next, it would be nice to have something growing in our rooms. This is quite important since it looks nice and also because "green thumbs" are made, not born. This means you must learn to understand plants and do some work if you wish to be a good gardener. Yes, you must learn by watching and working with plants to understand their signs. Leaves that droop are thirsty, leaves that turn pale green and are about to faint are hungry. Plants have many more signs which we must learn to understand through working and watching, signs which no one can explain to us, and

signs which are not mentioned in books.

In later issues of this magazine we will find many projects to keep your room green all winter. Right now it might be well to take three or four rooted sections from the vine in the backyard. To get these ready-made plants check some of the "runners" on the ground until you find one that is well rooted. Now all we need to do is cut the vine four to six inches in each direction from the rooted area. To have a nice vine ready to grow, it is necessary only to pick up a good sized ball of soil with the roots and place the plant in a pot. Be very careful not to disturb the soil next to the roots. Be sure to get three or four plants for Mother will be needing one for the mantle and another for the planter in the hall.

\* \* \*

Scatter a small spoonful of bird seed on a damp sponge placed in a saucer of water and you'll see how really green your thumb actually is.

---

It has been estimated that more than \$30,000,000 in Federal, State, and county funds is spent annually picking up litter on the Nation's highways, parks, and beaches.

---

"He is happiest who hath power to gather wisdom from a flower" Sign over the door of the children's garden at the Brooklyn Botanical Garden.

---

*Symphiorhiza* are a new type of perennial, somewhat like a *Campanula*, but as much as two inches long and one inch across the mouth of the bell. Some of them come from dry climates.

## A PEEK AT THE MAIL

Mrs. F. S. Mattocks, President of the Garden Club of Boulder, who is recuperating from a two months' sojourn in a hospital, writes:

"I enjoyed the last Green Thumb so very much as there was so much good reading information in it: there have, in the past, been too many illustrations, which to my mind, detracted from its value."

"Many thanks, Mrs. Mattocks, and a quick return to active gardening."

EDITOR.

Salida, Colo.

July 7, 1955

The Green Thumb Editor  
1355 Bannock  
Denver, Colorado.

Dear Sir:

When an angler acquires a "fish that got away" story, he usually gathers with his cronies at a bar or hearthside and he says, "—," but there is no need to go on, everyone knows the rest. However, I have a new twist to that old story that I thought might gain the sympathy of fellow naturalists. Here it is.

Over the Fourth we camped northwest of Buena Vista and south of Twin Lakes on another one of those streams called Clear Creek. This one drained an azure lake, bordered with Engelmann Spruce on the early morning side of the continental divide, called Cloyse Lake. It was uncomfortably cool all night and we shivered and shook under our pile of blankets in the back of our jeep station wagon as the sun lit the high peaks. Deciding that it would be hours before the warm sun would climb high enough to angle into the valley bottom (it took three hours), we pulled on our boots, the only item of clothing we hadn't put on for warmth

during the night, and walked swiftly over the frosted grass, past an ice-covered puddle in the road, up along a happy trickle of water that widened to a clear streamlet, and kept climbing past globe flowers, monkey flowers, and even Parry's primroses, to a waterfall.

Thoroughly warm by then, and thinking the children would be awakening in the tent, we started a random descent. Suddenly, a flash of delicate rosy lavender stopped me fast. There! Right there beside me was a flower so delicate, so lovely, that it took my breath away and in the next instant I knew we were looking at a bog orchid! What a rare treat! But alas, because it was so early in the morning, we had left our camera in camp—a good mile down. And even if we had had the camera, the flower was tucked discouragingly deep among the dark morning shadows, trees, and logs of a trailless forest! What a forest treasure to add to my wild flower kodachrome collection if only it could have been photographed. Still, the treat had been ours—a never to be forgotten one.

That evening at home we checked to be sure of our discovery in MEET THE NATIVES: "Subalpine zone: Herbs; red, pink, and reddish-purple. Fairy Slipper—*Calypso bulbosa*. A rare and dainty pink or rose orchid rarely found because it blooms early in the season; basal leaves broad; stem 2-4 in. tall; flowers single. In damp evergreen forests. Jc. p. 48." Positive identification!

And that's my story of the one that got away, Mr. Editor, and thanks for listening.

FLORA HARRISON,  
Member of Colorado Forestry  
and Horticulture Assoc.



# AN UNUSUAL CHERRY TREE

By S. R. DEBOER

**I** BELONG to a very exclusive society—one without by-laws, officers, dues, or meetings. The members may be old age pensioners or millionaires, teenagers or octogenarians, but they are all required to love trees and flowers and to have experimented with some unusual varieties in Denver, or Colorado.

It is one of the joys of my life that the members call me when they have something unusual in bloom and I never fail to go out and look at it. So this flower laden cherry tree in the picture is in the background of Mrs. Ella C. Willacy at 1734 Vine Street. It is a true "Queen Anne" Oregon Sweet Cherry and with the exception of one dead branch is in good condition. It is, perhaps, twenty-four years old and produces annually.

Mrs. Willacy has two stands of bees which duly tend to the pollination of the flowers and, by the way, produce some 140 pounds of the most delicious Colorado honey. She thinks we need far more bees in Denver and would like to see a hive at every school.

Denver experimenters please make a note of this true Oregon Cherry Tree. It may become a valuable one.

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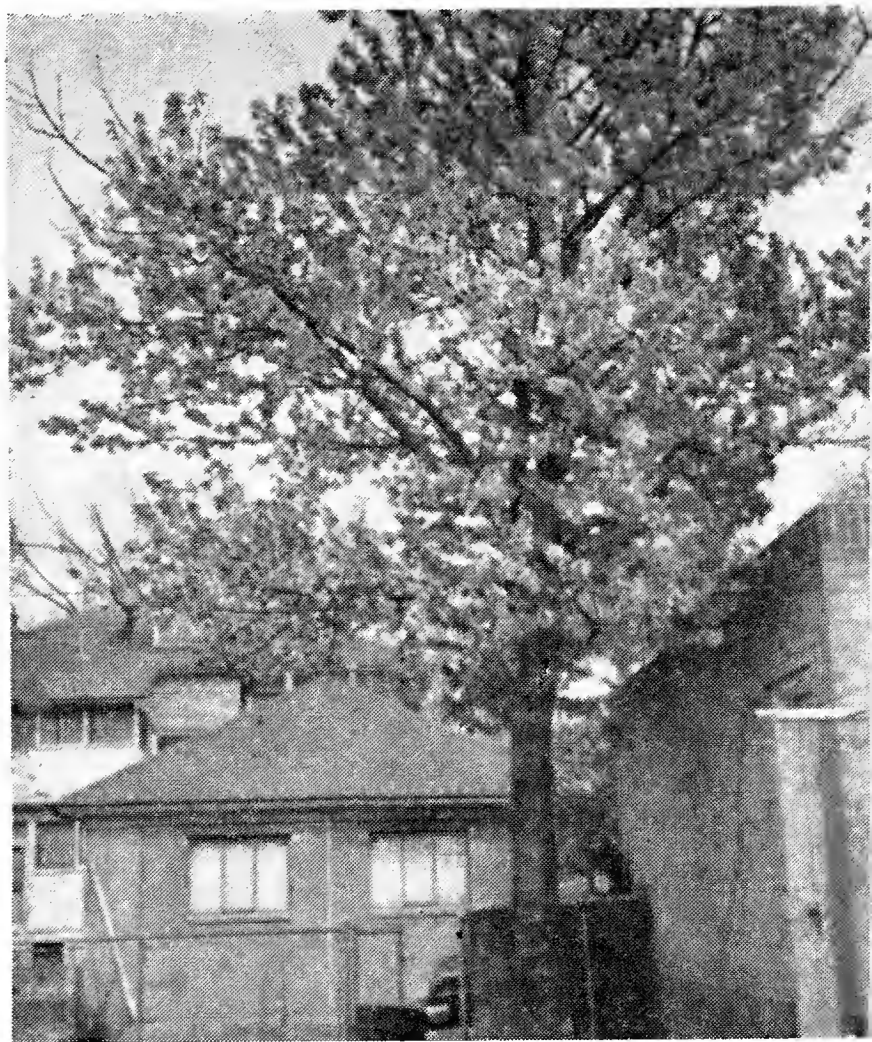
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## COLORADO GLADIOLUS SOCIETY SHOW

**T**HE Colorado Gladiolus Society held its second annual show on August 7, in the beautiful air conditioned show room of the Ford Motor Company.

The Grand Champion was Noweta Rose grown by John Platt of Greeley, Colo. Amateur Champion was Black Opal grown by the Jack Millers of Denver.

In the Arrangement Division, Mrs. Don Puffer, Denver, took Champion Ribbon with her centerpiece arrangement of white gladiolus, green grapes and grape leaves.

Champion Corsage was made of the variety Heirloom, by Lee J. Ashley of Denver.

Amateur Sweepstakes winner was Mrs. Paul Hastings of Denver with 122 points. Runners up were the Don Puffers of Denver with 77 points.

Open Sweepstakes winners (for those who grow more than 2500 bulbs) were Mr. and Mrs. Edwin Heidtbrink of Ft. Lupton, Colorado, with the runners up being the Sidney Baldridges of Greeley. The Heidtbrinks got 82 points, and the Sidney Baldridges got 55 points.

### Section Champions (Amateur)

- 200—Starlet, Mrs. Paul Hastings
- 300—Black Opal, The Jack Millers
- 400—Phantom Beauty, Mrs. William Wood, Denver
- 500—Elizabeth the Queen, Mr. and Mrs. Jack Miller

### Section Champions (Open)

- 200—Crinklette, Frank Smay, Wheat Ridge, Colo.
- 300—Crusader, The Ed Heidtbrinks, Ft. Lupton, Colo.
- 400—Lavender Lacy, Mr. J. Falco, Canon City, Colo.

500—Noweta Rose, John Platt, Greeley, Colo.

New to our show this year were striking containers for the 400 and 500 sizes made from commercial lunch meat cans, folded inward at the top, and painted a pearl grey. Many thanks to Sid Baldrige of Greeley for much of the work.

Our judges for Arrangements and Corsages were Mrs. Ralph Lewin and Mrs. Wm. Eccles. For open division, Dr. John R. Durrance and Herb Gundell; and for Amateur Division, Al Foster of Loveland Glad Gardens, and Mr. M. Walter Pesman of Denver.

### GREELEY, COLORADO

The Garden Club of Greeley had its first Gladiolus Show, Sunday, August 14, at the Arlington School. The Edwin Heidtbrinks of Ft. Lupton were Sweepstakes winners in the Open class, with the Sid Baldridges of Greeley being the runners up. The Sweepstakes winners in the Amateur Class were the Lee Ashleys of Denver, with Daisy Hastings of Denver the runner up.

Grand Champion of the show was Mother Fischer, grown by Mr. J. Falco of Canon City, Colorado.

Safety measures with power lawnmowers or garden tractors may seem obvious, but garden equipment accounts for an increasing number of accidents each year as more people use such equipment. Children often are chief sufferers, either because they want to try out the machines or get in their way. Many rotary-type mowers now have guards to protect against flying objects, if the fast-whirling blades hit a stone, for example. But all power machines need to be used with care.



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# *The Green Thumb*

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October-November, 1955

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# The Green Thumb

Vol. 12

OCTOBER-NOVEMBER

No. 7



## Colorado Forestry and Horticulture Association

Organized in 1884

*"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."*

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Secretary-Treasurer.....Spiro L. Nickolas  
Editor.....Patrick J. Gallavan

## CALENDAR OF EVENTS

OCT. 21—Nature on Screen Series  
"Into the North Woods" by Tom and Arlene Hadley. Denver Museum of Natural History 8:00 p.m.

OCT. ??—M. Walter Pesman's landscaping class in progress at the University of Colorado Extension Center.

NOV. 4-6—Home Garden Club of Denver Fall Flower Show at the Denver Museum of Natural History.

Nov. 4—12:00 noon to 4:30 p.m.

Nov. 5—9:00 a.m. to 4:30 p.m.

Nov. 6—12:00 noon to 4:30 p.m.

NOV. 5—Junior Workshop at the Garden Center 10:00 a.m. to 12:00 noon.

NOV. 7—Fun with Flowers at the Garden Center 10:00 a.m.

NOV. 7—Botany Club meeting at Horticulture House 7:30 p.m.

NOV. 30—Nature on Screen Series  
"Rhapsody in Bluegrass" by Walter H. Shackleton at the Denver Museum of Natural History 8:00 p.m.

DEC. 5—Christmas Exhibit by the Floral Art Study Club at Industrial Federal Savings and Loan, 1630 Stout.

The Editorial Board wishes to thank Mrs. Pauline Steele for all her many appropriate and clever line drawings in this conservation issue.

## HOURS AT HORTICULTURE HOUSE

8:30 to 5:00 P.M., Monday thru Friday.

PATRICK J. GALLAVAN.....Editor    MRS. HELEN FOWLER.....Librarian  
MELANIE BROWN, Asst. Editor and Librarian  
MR. AND MRS. SPIRO L. NICKOLAS, Custodians

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## THE COLORADO FORESTRY AND HORTICULTURE ASSOCIATION

A non-profit, privately financed Association.

1355 Bannock Street

•    Denver 4, Colorado    •

TAbor 5-3410

## EDITORIAL

So often in the course of a busy and fine growing season, as we have had this summer, something is overlooked. This is the case with this publication regarding conservation. We have slighted this important matter and apologize for it. We have always emphasized, however, that good gardening promotes good conservation, and that all the gardening advice in the past months' issues will pay conservation dividends in the long run.

The main theme of this issue is conservation. You will find a number of new authors as well as some familiar ones, but more important, you will find a straight-from-the-shoulder view of conservation matters as these men know them.

Sam Detwiler, a retired Soil Conservation Service man, notes the physical changes that have occurred in our state over a space of fifty years.

Professor White of Illinois gives us a lot to think about in his article about our state as a visitor sees it.

Len Shoemaker pays a fitting tribute to the Forest Service, which he has so willingly served, with his poem **FIFTY GOLDEN RINGS**.

Mr. J. V. K. Wagar offers a new idea on how you can help keep picnic and camp sites tidy.

M. Walter Pesman lists the ten most pressing problems of today that need your attention if something is to be done about them.

There are many more fine articles on conservation as well as other subjects in this issue which you will find interesting. We have emphasized conservation because we firmly believe that the future of Colorado and the nation rests with a conservation-minded public and a public which is willing to practice it.

## HOW DO YOU LIKE THE GREEN THUMB?

In response to the request of the President in the November 1954 Green Thumb, many suggestions were received regarding the Association's activities and particularly about our magazine. Some of these suggestions were valuable and have been put into effect. The following is a resumé of the suggestions that were used and of the general policies of the Green Thumb.

An editorial board was appointed with M. Walter Pesman as chairman. This committee has established a number of new policies, has agreed upon standards to be followed, and has endeavored to cover the field of activities included in the objectives of the Association.

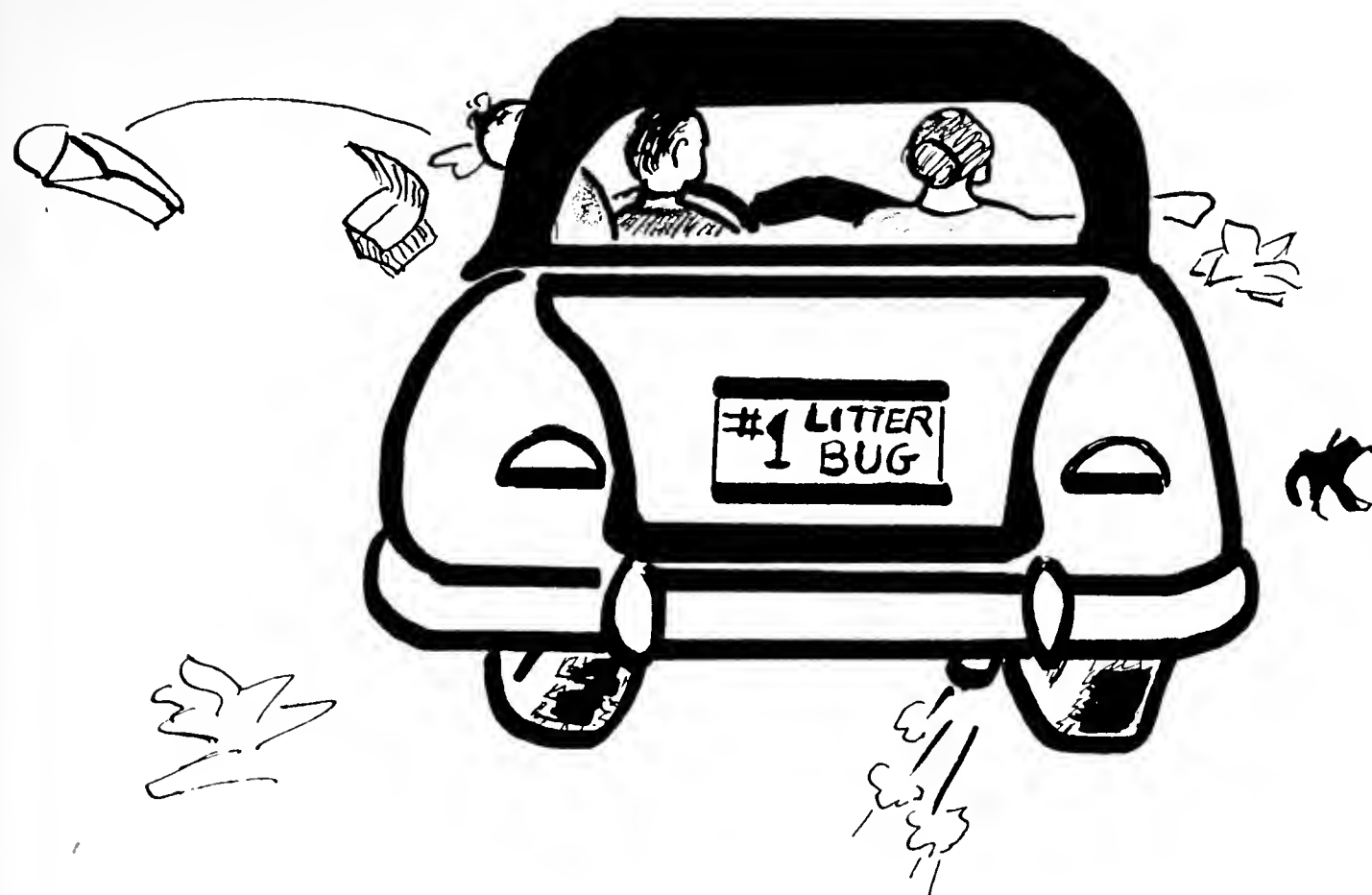
The cover has been standardized with the seal of the Association on the front and the table of contents on the rear. Do you like it?

There will be nine numbers for 1955. The February-March, July-August, and October-November issues were combined. It was the Board's feeling that more careful selection of material, the avoidance of duplication in text and pictures, and better editing would make up for the decrease in size. The total contents for 1955 will number about 368 pages in contrast to 528 pages in 1954. In addition, Horticulture House News Letters were issued in January and June. Do you think the foregoing arrangement was an improvement?

Let us know what you think of our efforts for 1955 and give us other suggestions for 1956. We would like to hear from you and would appreciate any articles on horticulture or conservation you might care to submit to The Green Thumb.

EDITORIAL BOARD.





## THE LITTERBUG AND HIS SPAWN

**M**R. Average Citizen has been contemptuously tagged "LITTERBUG" in an attempt to scorn him into improving his outdoor manners. This attempt has been successful to a degree but it still cost him (through federal, state, and local governments) in excess of \$30,000,000 last year to clean up the litter he had strewn in the parks, and along the nation's highways. It has been said "hit him hard enough in the pocketbook and he'll come around." However, if the beer cans in the grader ditch between here and Idaho Springs are an indication, he must consider the above sum a mere drop in the bucket!

Many agencies are at work trying to stem the tide of this Litterbug. Several brewers are experimenting with cans that have a salvage value. Many advertisers are including suggestions of proper disposal with their disposable items. The Keep America Beautiful Committee of the National Council of State Garden Clubs is waging a terrific campaign against the Litterbug. Their drawing depicting the Litterbug and the slogan "Don't be a Litterbug" has been seen in the newspapers, on TV, and on car bumpers across the nation. Its local committee came up with a display at a recent garden show here in Denver, Mrs. Buckbee, the chairman, collected a sample of all the common items of litter found in our parks and along our highways and gave them arms, legs, and heads, creating characters that can be tabbed the SPAWN of the Litterbug.

Insidious little creatures, yes, but they portray the true picture of the monstrosity we leave for the next person to view when we leave a messy camp. You will find a few of these items scattered through this magazine as carelessly as they are thrown about the countryside. It is hoped that they will prompt you to do your share in destroying THE SPAWN OF THE LITTERBUG.

## STATE PARK BOARD STARTS ACTION

By EVERETT J. LEE AND FRED R. JOHNSON

**P**LANs for the development of a state park system were discussed at a joint meeting of the State Park and Recreation Board and its Advisory Council, held at the State Capitol building on August 23rd. Newly appointed park director, Everett J. Lee, outlined steps he has been taking to prepare an inventory of existing roadside parks and stopping places. This will include a description of present facilities, recommendations for improvements, standards as to size, and expansion. The inventory will also list other areas suitable for roadside parks, especially in the eastern-half of Colorado.

It was brought out that a number of organizations have been working on the establishment of roadside parks, including the State Federation of Garden Clubs, the Blue Star Highway Association, service clubs, etc. Much of the work has been done by the State Highway Department in cooperation with the above mentioned groups. With the setting up of the Park and Recreation Board, it is planned to correlate the activities of these groups. Proposals for such sites will be reviewed by the park director, working with the highway department. An effort will be made to interest local groups to assist in the development of these areas, perhaps through the donation of lumber and cement for tables and fire places. In some places trees and shrubs must be planted to make these areas attractive stopping places.

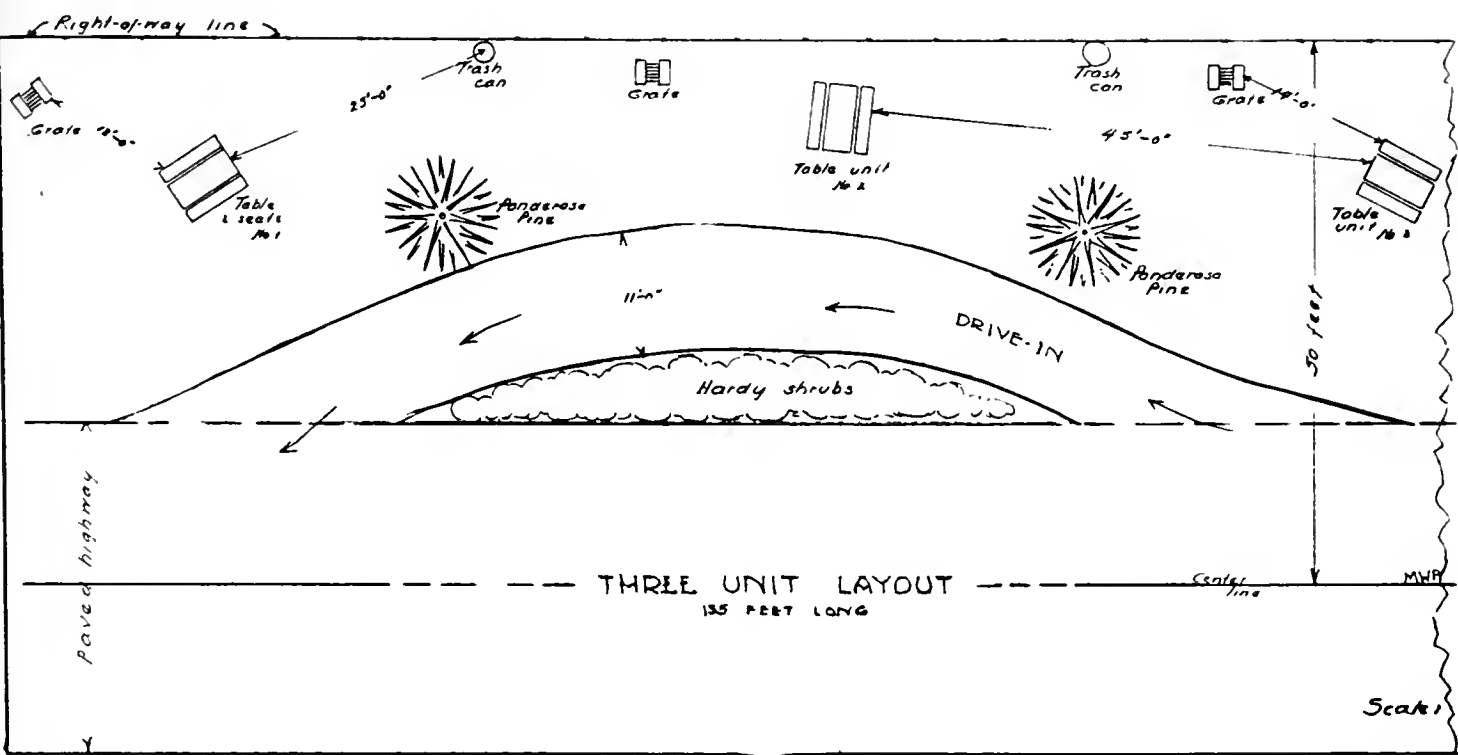
The 1955 Legislature authorized the warden of the State Reformatory at Buena Vista to establish a mobile unit with a selected crew of honor inmates, to work on such projects. An appropriation of \$38,000 was

made to cover the expenses of the unit for this year, but this money cannot be used for materials for the picnic places.

Hence the need for cooperators to provide the materials needed for the development of wayside parks. Undoubtedly, an arrangement can be made whereby such contributors can be recognized by a sign or plaque at each area developed. It is hoped that civic-minded organizations will help the Park Board in this project.

Another possibility for state parks may be the designation of certain state-owned lands for this purpose through arrangement with the proper state agency. For example, the State Game and Fish Department has charge of a ten-acre artificial lake, which resulted from the removal of sand and gravel for use in building the Horse Tooth Reservoir dam. This lake, located near Bellvue, has been stocked with fish. It remains at a uniform level and there is a nice cottonwood grove around it. It is well suited for park purposes and brings out the point that even though such areas may be small, if they have trees, water, or other attractions, they can provide recreation for local citizens or tourists travelling through the country.

In the past, several persons have indicated a willingness to donate lands for state parks, provided the state has an agency to develop, maintain, and protect them. Now that such agency has been established, it is hoped that some land donations will be made. The matter of maintenance of parks and roadside areas will be worked out as the park system is developed. This may be handled by patrol crews from the State Reform-



*Proposed standard layout for three-unit roadside park.*

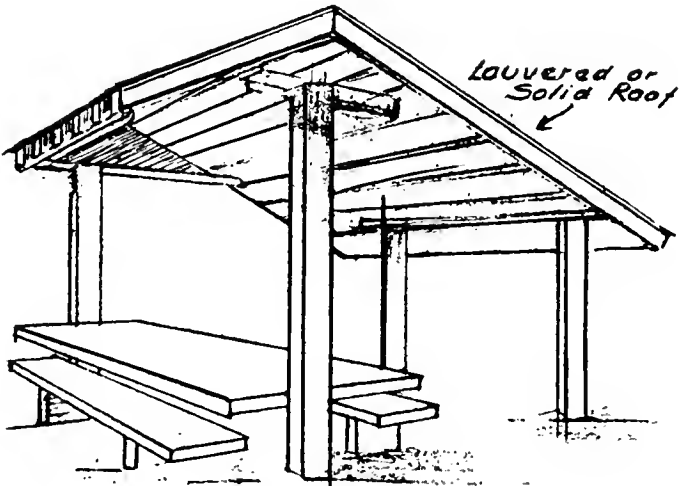
atory, the State Highway Department, Game Wardens, or State Park employees.

Further progress resulted from the meeting of the State Park and Recreation Board on September 12. State Park Director Lee presented two suggested plans for roadside park construction. These were prepared by M. Walter Pesman who, prior to World War II, was in charge of roadside development for the State Highway Department. The designs which are standardized and may be adapted to ordinary roadside stopping places provide for tables, constructed of either wood or cement, as well as concrete grills. One design for treeless sites in semi-arid locations called for the construction of a sun shelter.

The Board was well pleased with the designs, expressed its appreciation to Mr. Pesman, and instructed the State Park Director to proceed with the construction of one unit each of the two designs along U. S. 87. These will be installed this fall

with labor provided by the State Reformatory at Buena Vista.

The important point is that a state park system is in process of development. It may move slowly, with only a few roadside stopping places at first. Units turned over by other state agencies, land donations, and later perhaps purchases of suitable sites, will give Colorado a park system of which we can be proud. A lot of people have been talking about state parks for years. The new set-up gives promise of actually bringing this to fruition.



SUN SHELTER  
SKETCH

## SAMUEL B. DETWILER

**A**LTHOUGH Samuel B. Detwiler officially retired from government service over seven years ago, it is characteristic of him that he continues to carry on several research projects around Boulder, where he now lives.

When I first met him in 1937, I soon realized that "Det" was one of those exceptionally inspiring people who are too rarely known. For, although one can read his record in such books as "American Men of Science" and "Who Knows—And What", his greatest achievements are recorded only in the minds and hearts of those who have been privileged to work with him. He has set an admirable example for his profession with his endless stream of ideas and inexhaustible energy for pursuing them. One cannot help feeling an urge to do something after hearing his optimistic and practical approaches to conservation problems.

As a keenly observant man, he is quick to notice significant facts and relationships that many of us would overlook. How well I remember his taking my wife and me to see an unusually healthy stand of black locust trees in Arlington County, Virginia. When he had previously driven past this hillside of trees, his quick eye had detected that they were making better growth than the average trees of that region. Upon further investigation he discovered that the whole area under the trees was covered with a luxuriant ground cover of Japanese honeysuckle, and that the soil underneath was of exceptionally good quality, apparently the product of a mutually beneficial relationship between trees and ground cover.

The good judgement of the Soil Conservation Service was demonstrated when Mr. Detwiler was appointed to head one of its research divisions. Largely through his vision and efforts the Hillculture Research Division was established, and he was at the head of that activity for the last twelve years of his government service. The basic concept of this project was that we should discover better soil-conserving land-use systems for land that is too steep or wornout for farming and not suitable to forestry practices. The whole approach to the problem was planned upon a sound ecological foundation. It is most unfortunate that this concept, though tried and proven successful in the Dutch East Indies and in other lands, was not fully appreciated during the years after World War II when it was abandoned by "penny-pinching" budget makers.

Presently Mr. Detwiler is working with a number of species and varieties of ground covers and woody plants to determine their adaptability to Colorado conditions. One of the most surprising species he is growing is the beach plum (*Prunus maritima*). How many people would have thought of any similarity between the native home of this species along the rugged New England coast and our conditions?

We hope that Samuel B. Detwiler will have many more years of rewarding research and that he can continue to help the cause of forestry and conservation.

MORAS L. SHUBERT,  
University of Denver.



# COLORADO AS I KNOW IT

By SAMUEL B. DETWEILER

A HUNDRED years ago Colorado did not exist as a geographical unit, for in 1855 all of Colorado's "eastern slope" was in the Territories of Kansas and Nebraska. A hundred years is only a human lifetime, short in the history of a State. Yet, a hundred years ago today, our State was still a land of buffalo, beaver, Indians, trappers, and explorers.

Gold-seekers flocked into the Rockies in 1858 and gold discoveries on the Platte watershed caused a rush of prospectors in the next two years. The 1860 census reported 34,277 as the population enumerated in what is now Colorado. In the next 40 years the population increased to 15 times that of 1860. Since 1900 Colorado's population has approximately trebled. Will it again treble in the next 50 years? That is the \$64,000,000 question of today. I foresee an early end to the present phenomenal growth of Colorado's agriculture and industry **UNLESS WE ARE FAR MORE DILIGENT IN APPLYING CONSERVATION MEASURES THAN WE ARE DOING TODAY.** That explains my reason for writing this article.

Water supply is the factor which I believe will limit the rate of Colorado's growth and economic development. Over the past two years there has had to be sharp curtailment in the use of water over much of the State's farming, residential, and industrial areas. A lot of this trouble has come about because of the present generation's short-sightedness in regard to their direct concern in all phases of the conservation of natural resources. Of these resources, I consider water to be the primary one, for water is gold and more than gold—

it is life itself when the well runs dry.

The early settlers of Colorado were truly farsighted in this respect. In 1859 the Gold Hill Mining District set aside "both slopes of Four Mile Creek as a forest preserve". This was done to safeguard the water supply in this creek for use in placering, and to prevent snowslides and landslides on the steep mountain slopes above the creek. Very likely this was the first practical step in forest conservation in Colorado, and in 1876 it was followed by provision for forestry in the State constitution. The first State Forest Commissioners in the United States were appointed in Colorado, California, and Ohio, in 1885.

Our pioneers were men of toil in rock and soil. Men, women, and children learned the value of water when they crossed the "Great American Desert" in slow-moving wagon trains. In the mountains they were close to Nature, their keen powers of observation showed them the many direct relationships between forests and water supplies. Not so today. We drive rapidly, briefly stirred by the beauty of forested mountains and clear, rushing streams, but too many of us lack the pioneer's vital understanding of how these things are related. Much of Colorado's welfare depends on our future citizens acquiring adequate knowledge of soil and water conservation, including forestry, wildlife conservation, and many other phases of wise land use.

Colorado is "Our State" to me. I first came to Colorado in 1903, and have loved its mountains and people ever since. And in the entire interval between 1903 and 1955—52 short

years—my work has been along professional lines of soil and water conservation throughout the United States. In 1948 I retired from active service and came to Boulder to live close to my beloved mountains and plains.

In 1903, Colorado Springs was having difficulty in getting an adequate water supply. Its watershed was chiefly the part of the Pikes Peak area lying between the Springs and Cripple Creek. Most of this land was in the National Forest and had been almost entirely denuded of forest by a fire set in 1847 by Indians intent on driving explorer George F. Ruxton out of the mountains. Ruxton's description of this fire is an impressive bit of history of the Pikes Peak country a decade before white settlement.

A party of a dozen young foresters worked south of the Peak in 1903 to map and study conditions in the area in order to plan ways and means of replanting the barren land into forest. (It must be remembered that in 1903 only European countries had knowledge of forestry work in practice). As a result of the survey, the U. S. Bureau of Forestry established a forest nursery at Clyde, Colo., midway between the Springs and Cripple Creek, on the Shortline railway, at about 10,000 feet elevation. The water supply at this nursery was too scant, so in 1905 the nursery was moved to Jones Park, at the head of Cheyenne Canyon. In 1906, the Forest Service assigned me to take charge of this nursery. In 1907 I found a more suitable nursery site on government land at Monument. The Service approved permanent establishment of the nursery there, and under the able direction of Walter H. Schrader, the Monument Nursery has achieved fame. Millions of baby evergreen

trees from this nursery have restored the snow-saving, water-conserving forest cover to many acres of denuded land in the Pikes Peak region. Unfortunately for Colorado welfare, Congress has given stingy support to reforestation work, so the Monument Nursery now raises only a fraction of the planting stock needed from it for use on nearby thousands of treeless acres.

The summer and fall of 1905 gave me exceptional opportunity to know Colorado conditions very much as they were before the State was settled. The Forest Service assigned me to head a small party in making a study of the feasibility of replanting the burns in the Taylor Park country. The study was aimed at water-conservation for the benefit of the Uncompahgre irrigation project. The tunnel for it was then under construction between the Black Canyon and Delta. My finding was that forest planting was not practicable on the eastern half of the Gunnison Forest at that time, partly because of prohibitive cost in that remote territory, and partly because Nature was doing a good job of regenerating lodgepole pine.

I got a thrill out of travelling over a half-million acres of practically virgin land on the western slope of the Rockies. For in 1905 the Gunnison River drainages were close to the way they were before Colorado became a State. The western slope of the Collegiate Range was marred by many extensive fires that were set by careless prospectors who thronged Taylor Park around 1880. However, fine young stands of lodgepole were healing these scars. There was good forest cover over the Elk Mountains, west of Taylor Park, interspersed with numerous and large natural "parks" that were covered with waist-

high stands of the finest bunch-grasses I have ever seen.

In 1928 I stopped over at Gunnison and went up the north fork of Taylor River as far as the mouth of Crystal Creek. The farther I progressed, the greater my gloom. While the grazing was not unduly severe, yet the change which "progress" had brought about in land use had destroyed the primitive beauty I had hoped to see again. When I came to the tents of a party of fishermen camped near Crystal Creek which were steeped in dust, I knew my quest was in vain. So I turned back, tears in my eyes. That was just sentimental reaction, but the damage to natural cover from overgrazing and lack of understanding in the use of axe, plow, and fire is a practical matter that involves inadequate water supplies, damage from floods, hospital bills from illnesses caused by impure drinking water, and poor fishing,

just to name a few results of careless land use.

My observations in Colorado over a half century as here recorded are hopefully aimed at arousing greater sustained public interest in conservation, and wise use of the soil and its resources, including forests, water, wildlife, and recreation. "Ecology" is a scientific term which today has little meaning for the general run of people. But a hundred years hence, I believe "ecology" will mean much to the average Coloradoan. For as I define the word in relation to soil and water conservation, it means applying the principles of land-management followed by the Creator from the beginning of the world. In simpler words, it means that foresters, farmers, lumbermen, and all who own land will follow natural principles of culture and care in producing crops from the soil. Timber is a crop the same as wheat or hay or apples.

## CONSERVATION—WHAT IS IT?

**I**T is sound management of our existing forests and the reforestation of our depleted ones to insure a continual supply of timber for the future.

It is crop rotation, fertilization, and irrigation of our farm land so that it maintains its stability and productivity.

It is dam building, watershed management, and controlled use of water for the benefit of our entire nation.

It is intensified research in field and laboratory for the maximum use with the minimum waste of our non-renewable resources such as coal, oil, and minerals.

It is game management, game laws, and anti-stream pollution campaigns that give our sportsmen a constant supply of game and fish.

It is the preservation of wilderness

areas, national parks, and monuments that give us fleeting glimpses of the wonders that nature has created.

It is the parks, the gardens, and other recreational facilities that provide a constructive outlet for our leisure time.

It is the homes, the schools, the juvenile courts, and other related factors that mold the greatest of our resources—the youth of the nation.

Yes, conservation is all of these things and more. It is a way of life. If its true meaning, **THE WISE USE OF ALL OUR NATURAL RESOURCES**, were understood by everyone and then applied to everyday living, the future prosperity of our nation would be assured.

PATRICK J. GALLAVAN, *Editor*

## NEVER COME DOWN

By STANLEY WHITE

**M**R. Stanley White has been a professor of landscape architecture at the University of Illinois since 1922. During the summer months he has served as Director of the School of Landscape Architecture at Lake Forest, Illinois, taught at Harvard University at Cambridge, Massachusetts, and worked on plans for public parks, residences, etc.

One theme in particular that runs through Professor White's work is that of awakening the general public to an appreciation of landscape design as "the use of the land." In other words utilizing the natural conditions to their best advantage.

The popular illusion seems to be that members of his profession are around merely to tell people where to plant their petunias and Mr. White would like to bring about a more mature understanding of the need for landscape architects as designers of the total natural environment in which people must live.

**S**OME time, I keep telling people, I am going to climb a mountain and never come down. On an overland bus this summer, I woke up in the sheer beauty of dawn in western Kansas with its rolling plains of Naples yellow under a Payne's gray sky, and I knew I would soon see mountains. The trip had been colorless, the houses and towns dull and offensive in the heat and clutter of the highway, now taken over mostly by our automobile culture tiresomely crowding every crossroad and junction, so I was ready for the first glimpse of **COLORFUL COLORADO**. Letters had been telling me that mountain meadows through July were ablaze with bloom and that I might still see blue bells (of Scotland), pink fireweed, and saffron potentillas.

It was not many days before I was climbing Flagstaff Mountain with a companion and enjoying the delicate coloring of the almost untouched native scene. This is the one place I know of where you can see a parallel of latitude, looking along the "baseline" as it courses into the infinite

blue east. Then we got talking about color.

She said she had noticed four colors in the wild grasses, an olive hue of foliage green; a pale bluish green; and two notes of buff or tawny, one rather rusty, and the other deep wine color.

"Probably *Andropogon*," I suggested, "but it depends on the time of year."

In towns the lawns are always the same bright green. Gets to be tiresome until it is softened by evening shadows, for it is too loud for the red brick houses and the gawdy spots of orange zinnia, magenta phlox, and cartwheel-blue lobelia that people like to plant. We need color **STYLING** in the landscape. I like the pale mountain colors spattered on sage green and black of pines.

"Do you suppose visitors come to Colorado to see color?" she ventured.

I pulled a map out my pocket and showed her the colored pictures the State Highway Department had printed to lure the "thousands of sportsmen" and other vacationists like me into enjoying the "primitive country untouched by the works of man." On the back there was a letter from the Governor starting out:



'HOWDY:

COLORFUL COLORADO EXTENDS TO YOU A HEARTY WELCOME . . .

and ending up with something about the 'FULFILLMENT OF DREAMS'

(signed) 'SINCERELY,'

I wonder if he was dreaming about that colorful place near Manitou, colorful Estes Park, and that colorful honky tonk near Evergreen. HOWDY, GOVERNOR!

Well, you can't do anything about what people do to their own places, can you? All those neon lights, signboards, and giddy paint jobs are on private land.

No, but some states have got rid of all that by routing well-designed parkways through broad enough right-of-ways. New York is under virtually complete control. Landscape architects collaborate with Highway engineers to secure location, construction, and planting that produce the best highways with the least mutilation of the scenery. Colorado ought either to try to fix up the approaches to the mountains, or else add some color pictures to the Highway Department's advertising map to show Estes Park, Manitou, and saddest of all, little Idaho Springs. HOWDY, GOVERNOR:

(signed) SINCERELY.

Just then we stumbled over some beer cans. They were colored rust and silver!

"Isn't it remarkable," my companion said, "that nature disposes of her own waste so that it takes its place in the landscape without defacing the countryside?"

I recalled that always on recent trips we had had to eat lunches on little incipient town dumps. It was difficult to find spots "untouched by the works of man." I began to wonder how much revenue the tourists

bring in, and how much unaccounted for "earnings" the state takes in when people moving to Colorado accept jobs of lower pay so that they can go skiing week-ends. And I thought of good ways for the state to spend all that money. Perhaps I should take it up with the Governor. HOWDY!

On the way home we saw from the toll road the distant mountains receding in flat tones of Payne's gray against a Naples yellow sky, "gilding pale streams with heavenly alchemy." There was a question voiced as to how I liked the road. Mostly good, I felt, like the rest of the newer Colorado highways, but the engineers still slip in a long vertical tangent here and there instead of adapting to contour. There was one just ahead. Doesn't meet landscape architects' requirements. Across Wyoming, the newest roads are nearly ironing out the landscape. Seems quite silly—why don't they fly?

"Landscape architecture seems to aim at conservation of land forms," she suggested.

Nothing more fundamental. The main reason why the proposed Air Academy plans laid an egg was because they didn't fit the land. Ridiculous misplanning! Landscape architecture is to a large extent the art of putting a scheme properly on a piece of land. But people usually don't know that. They confuse it with ornamental horiculture which is merely the decorative side of design.

Big cloud castles walled the eastern sky, rising higher than Mount Everest. Below were the clusters of newly built little flat houses, smartly painted, modern and expensive. They looked no different from the upstart communities to be found around every big city, vast swarms of dwelling places, each shouting modernity, but each too large for the lot, and each,

I knew, containing a new baby, an old stick of driftwood, and a plant with holes shot through the leaves. Views everywhere included an incomparably beautiful sky and a slice of the mountain front. But I had a feeling that this brand new culture, in its headlong rush of growth leading inevitably to standardization, had become arch enemy of conservation in a landscape immeasurably old. I wondered how long it would be before trees obscured both sky and

mountains; and the child grew up and escaped; and the houses were paid for, or "refinanced." I began to ponder who really owned the houses, and what would happen if all the mortgages fell due at once, and I must have said so out loud.

"What would we do?" my companion asked. "It sounds appalling!"

"Me?" I replied. "I guess I'd just climb a mountain and never come down!"

## FIFTY YEARS OF ACCOMPLISHMENT

By LEN SHOEMAKER

**T**HE United States Forest Service is celebrating its 50th Anniversary this year, for on Feb. 1, 1905, the bureau was reorganized and renamed. It had been formed on July 1, 1898, when the first appropriation for the administration of the forest reserves became effective.

During that 7-year period, the bureau was managed, in part, by inefficient, politically appointed administrators, but under the guidance of its first chief forester, Gifford Pinchot, it emerged as an administrative unit of exceptional stability and trustworthiness.

However, in its early years, the newly organized unit had its troubles, too. Almost everywhere settlers still resisted its efforts to effect a controlled use of the natural resources on the forest reserves. Even that name, itself, reacted against the bureau. People thought the resources were to be locked up when, in fact, the Forest Service policy was just the opposite—a wise use of them. To remedy the situation, in 1907 the name was changed to national forests.

Timber operators, generally, accepted the bureau's control, but stock-

men, generally, opposed it. In western Colorado they contested the payment of grazing fees in what was known as the Fred Light Test Case. The government, however, won its case in both the District and Supreme Court Trials, and established its right to charge a fee for its resources and to enforce its regulations.

Today, administrative control of the national forests is a generally conceded business stabilizer. All classes of users are given fair and impartial consideration. By its charge of reasonable fees, the bureau is now paying its way, which in itself is a praiseworthy accomplishment.

When I was offered a job as forest guard, in 1913, I turned it down because, in that locality, forest rangers were still classed as undesirable citizens. But after I did accept it, I soon learned that the bureau's objective was admirable. So I took the civil service examination and became "an undesirable citizen" but an ardent exponent of conservation. Eventually, by giving fair service to all, I saw the opposition to The Service vanish in that neck of the woods, and its several servants (myself included) accepted as normal beings.

As a retiree, I consider my 30-year conservation. I am glad to have had service with the Forest Service as well even a tiny part in that accomplishment. During its fifty years of administration, it has accomplished much toward stable forest and range its past and present administrators. The following verse fitly expresses my regard for The Service and

## FIFTY GOLDEN RINGS

By LEN SHOEMAKER

Full fifty rings has our Forestry tree,  
Each symbolizing service to you and me  
And the kinsmen who gallantly served,  
That the tiny seedling should be preserved.

At first the rings were close and tight,  
As we toiled and struggled with all our might  
To build a Service force, valiant and strong,  
That could separate, easily, right from wrong.

As years went by those thin rings grew  
In number, in width, and in texture, too,  
Till the tree expanded, (as a good tree should),  
And evolved into what we wished it would.

A tree that was supple yet sturdily made;  
A good piece of timber that was unafraid  
To battle the storms of abuse which came  
And went, at times, like tongues of flame.

A tree that was known both far and wide,  
To which, at last, people pointed with pride;  
And to which they came for support or aid  
Or just—perhaps—to bask in its shade.

I, therefore, gladly respond to the call  
To pay honor to that tree straight and tall;  
Our Forestry tree that now staunchly stands  
And extends to the nation—its helpful hands.

Written for the 50th Anniversary celebration of the  
United States Forest Service—1955.



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*So beer belongs, but where?!*

## TIDYING GOD'S GARDEN

By J. V. K. WAGAR

CAN any people surpass gardeners with their typically splendid combination of idealism and realism? What dreams they have! And yet what labors they perform! Surely if all people could garden — working with the warming earth, bursting seeds, and unfolding beauty — this would be a much happier world.

But today the dreams and labors of gardeners must extend far beyond their garden fences. Gardenless city dwellers in ever greater numbers, made mobile by improving highways and automobiles, race out into the national forests, parks, and other lands which we hold in common, and upon which the Deity does most of the seeding, watering, and tending. There they leave their cans, bottles, gum wrappers, film cartons, and other offal of a vigorous and thoughtless civilization.

We talk of fines imposed upon these vandals—when and if they can be caught. We contrive slogans and posters to alter their habits. We hire what janitorial service we can afford. Some of us reach the conclusion that eventually we must place a one-cent tax upon each durable item commonly discarded—upon each beer and pop bottle or can, each whiskey bottle, each film and foil candy wrapper—to provide funds for keeping the countryside clean and to help park areas where the litterers go. Thus, those who make our outdoors untidy share responsibility for the mess they make.

But in the meantime, we who regard the scene with a gardener's eye, must extend our labors. We must realize that picnic meals weigh less and have less bulk when transported back to town than when originally



enroute from it. Our own town, with proper provisions for tin cans, papers, and garbage, should take care of our picnic refuse. The city dump, rather than expensive garbage pits in forests and parks, is the eventual logical depository for most trash taken by town folk to mountain picnics and week-end camping trips. Others follow our pattern when such routines are explained and demonstrated. Some large groups like California's famous Sierra Club, bring back glass and cans even from their mountain trips of only several days' duration.

In many places where we eat or camp in Colorado mountains, often without any regular Forest Service or Park Service maintenance, it is desirable for the fastidious picnicker and camper to remove the bottle caps, broken glass, and cigarette packages strewn by others. Then the place will be better to return to next time. Here a bit of squeamishness rears itself as an obstacle unless adequate equipment is available. To pick up others' broken bottles, paper plates, and tin cans with one's bare hands and to place them in one's clean car, is not an attractive project. For this a pair of suitable work gloves, the little shovel always in the car, and a heavy, whole gunny sack, make the task quite tolerable. There can be a little stick with a pointed nail on one end, kept with the tire chains, water pail, light ax, and other equipment which the advanced and self-reliant mountain driver keeps in his car.

Many times while picnicking upon ranch and other private lands, whose owners permit access, we have filled our gunny sack with containers left by other people. Guests of ours have joined in picking up—while we talk and visit—and all have felt better



for it and have been justly proud of the clean bit of countryside we leave. When the gunny sack contains more beer cans than we want visible in the trash box at the back of the garden, we empty them at the city dump on the way home.

Thus we believe gardeners can extend their admirable tradition of tidiness to all outdoor scenes. Others who witness their concern for a clean outdoors adopt the custom. No great effort or time is involved in picking up just a little more than one's own trash. Time and energy for such chores are not difficult to find during characteristically leisurely picnics and camping trips. Such tidying is far more effective than mere complaining about the behavior of others. And it is not a very great price to pay for keeping the Rocky Mountain outdoors looking—and actually being—the way we want it.

## GOOD PICNIC HOUSEKEEPING

COLORADO picnic and campground do tend to become a mess! This problem was properly shown in picture and story by the DENVER POST in its August 4 issue. Such interest, shared with the responsible public, conforms with the POST'S traditionally admirable "so the people may know" policy.

We are grateful that the Colorado Highway Department, the Denver Mountain Parks, the Forest Service, and communities like Idaho Springs try to clean up our picnic refuse. But we as citizens need to know more about these areas, their maintenance, and our own responsibility. This is especially true of the many and scattered Highway Department and Forest Service camp and picnic grounds. In most cases our use and abuse of these areas boils down to our expecting a lot for nothing.

How the Highway Department stretches its funds to build roadside tables and fireplaces where people stop to picnic, and then to clean up after the picnickers, beats me. Colorado is an expensive state to build and maintain roads in. It's a big state. High mountain passes cost a lot to clear of snow, and high altitude roads break up under extremes of frost and heat.. And there aren't a lot of people to pay costs. The Forest Service, it is true, more than pays the cost of administration and protection, but it's the loggers first and the stockmen secondly who, buying materials and services, return our taxes to the U. S. Treasury. We who use national forest camp and picnic grounds in most cases don't pay a cent toward their keep. There are a few centrally located national forest campgrounds that make charges, but most of them are free.

In our two small Colorado national parks, the motor operation fee doesn't meet administrative costs, let alone paying for camp and picnic ground use.

Colorado's new Colorado Park and Recreation Board and its Advisory Council may concoct some useful and not very painful way to pay for janitor service needed after our picnicking and camping. But in the meantime, every Coloradoan who presumes to be a good outdoorsman can take direct action about keeping public camp and picnic grounds clean.

Most picnickers and campers live in town. Every good citizen has adequate trash and garbage facilities on his place and knows how to get the surplus to the city dump. Outdoorsmen we admire most are bringing their picnic and much of their camping refuse back to town and getting rid of it there.

Bringing the trash home with us is a small price to pay for our enjoyment. It takes very little time and effort. There does seem to be one key factor. Picnics taken to the hills in such fragile containers that the food is spilling upon arrival make it difficult to bring the rubbish home. But a sturdy wooden picnic box or hamper, with a few old newspapers and extra paper sacks folded in the bottom, makes the job easy.

If we, who eat out in the mountains do our own housekeeping, our public servants in charge of these areas can turn their attention to more important matters. Here's an opportunity for good citizenship and the free enterprise we talk about.

J. V. K. WAGAR, *Chairman*  
Advisory Council  
Colorado Park and  
Recreation Board

## MORE NATURAL LANDSCAPING

By ERNST C. SCHEFFLER

THE development of certain designs in American landscaping during the past, shows formal and informal arrangements influenced by tradition, by the development of land in formal sections such as city blocks, and by patterns of architectures placed along these geometrically regular lines. Many amateurs, nurserymen, landscape contractors, architects, and even landscape architects cannot seem to escape the trend of building and planting along these lines. This almost inevitably results in formal design and symmetry with little or no variation.

Besides artificial boundaries, section lines, and street and highway systems, the American landscape contains such waterways as natural creeks, rivers, artificial canals, and irrigation ditches. All of these have to follow along more or less curved lines—the contour pattern of their landscapes—or cease to exist because they are governed by gravity and the trend of Nature's cycles. Highways and streets that follow along such waterways in valleys and canyons, or go through parks placed in similar depressions, are always the most scenic and beautiful. The state of Colorado, for instance, has many well designed highways in its mountains and hills where Nature is so strong that no artificially modern system or contour pattern can dominate the natural beauty. This leads us to the realization that Nature is most beautiful in a state of original freedom and informality. Further more, if we use this knowledge for the enrichment of our lives and in the landscaping of our cities, towns, institutions, and industries, we have to include Na-

ture's course as much as possible. No longer can we be satisfied with penetrating the natural landscape with artificial formality only, making this landscape a domestic slave to our mass functions. We must respect and apply the laws that are basic to the very existence of all life on earth and make them an important part of our civilized thinking. In other words we should work with Nature instead of against it.

Not very long ago I examined a small patch of grasses, herbs, and woody plants near a tiny mountain creek in Colorado. This lovely plant association was exquisitely unspoiled—a perfectly designed little world in itself. It contained in its exhibit all the great qualities of the living nature that we admire. Here were elder bushes, glowing dogwood, gentian flowers, shooting stars, and even a well-behaving single dandelion hiding in the mass of other grasses and herbs along the glittering little creek. This little garden of Eden certainly would be spoiled if we changed the basic conditions by stealing some of its humus, applying fertilizer, or cutting off the little stream. We cannot transplant such a precious exhibit into our city park or garden, but we can admire it, photograph it, or paint it as Albrecht Durer did *Die Rasenstück* (The Grass Patch) and at least record a perfect landscape.

I cannot help but compare this little section of well-balanced nature with man-made gardens where we keep masses of annuals in lines, trees and shrubs in rows, and perennials lined up or locked up in formal patterns of thinking and ruling. The patch in the mountains was a self-

sustaining little world. Our garden patches are often artificial, unbalanced, and sometimes ill and dying arrangements that cause much trouble and effort in up-keep.

All regions of this world exist under certain climatic and topographic conditions which include cities, towns, gardens, and parks. By letting the natural conditions dominate our methods in landscaping, we would take our first important step towards adjustment and improvement. Using irregular patterns of nature for our over-all and detailed designs of landscaping would be another important move and an effort to establish a permanent association of woody plants, evergreens, and perennial herbs in irregular patches should follow.

Designing and planting along topographic lines and according to local

climate and available water is essential. Improvement of contour lines, top soil, and distribution of natural moisture is next. The establishment of dryland lawns containing native or hardy grasses would take care of large areas now either poorly maintained or maintained with difficulty.

The result would be an integration with Nature, and a restoring of Nature's beauty into our immediate surroundings and artificial living spaces, which in turn would help us to live, think, and act more effectively. What has been lost through overwhelmingly stylized utilization of space would be regained, and our new landscaping would become more natural and self-sufficient, as all natural landscapes used to be long ago, and still are, in a few protected and inaccessible environments.

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## STATE FORESTRY REORGANIZED

By FRED R. JOHNSON

**T**HE Colorado State Forest Service was transferred from the State Board of Land Commissioners to the State Board of Agriculture by legislative action of the Fortieth General Assembly (1955 Session). The position of State Forester was abolished and authority was given to the Board of Agriculture to reorganize the administration of the state forestry duties, to protect the forest, both public and private, from fire, insects, and disease. Other duties previously assigned to the State Board of Forestry have been transferred also to the Board of Agriculture.

This reorganization has been in progress since July 1. Mr. R. E. Ford, formerly State Extension Forester, has been designated State Forester Supervisor by Dr. W. E. Mor-

gan, President of Colorado A & M College. Professor Ford writes:

"We have divided the state into four districts with a graduate forester to be located in each. At this time we have two men, one at Canon City serving about 14 counties along the front range and the San Luis Valley. The second man is located at Montrose to serve about 13 counties in southwest Colorado. A third man, whom we have not hired yet, will be at Steamboat Springs to organize the work in northwest Colorado, and the fourth district man will serve Larimer, Boulder, and Jefferson counties, and supervise the state program. For the present, I am attempting to do this supervisory job."

Professor Ford promises to prepare an article for a later issue after his reorganization is completed.



## SEASONAL SUGGESTIONS FOR MID-AUTUMN

By DR. MORAS SHUBERT

1. With the fall of leaves, many gardeners may yield to temptation and undo a lot of the good work they have been doing in building up a lawn mulch. Don't rake deep and clean, but instead lightly sweep off any excess leaves. Those that are missed will quickly become part of that valuable organic mulch that protects the grass.

2. The leaves that are raked off should not be wasted, but rather should be put into a compost heap. Make successive layers of leaves about six inches thick and separated by one-inch layers of garden loam. If a nitrogenous fertilizer is added to each layer, the compost will be improved. This material will be ready to use during the next growing season if it is turned a time or two this fall and winter.

3. Any of the underground propagating parts of gladiolas, dahlias, cannas, or other tender species not already dug should be taken up before the ground freezes. It is best to dig them in the morning on a sunny day and spread them out to sun-cure a few hours before storing. Be careful not to bruise them, especially the dahlia roots. Storage in air-dry soil or vermiculite in an unheated cellar is best. Otherwise follow suggestion No. 4.

4. Non-hardy corms, roots, tubers, etc. can be stored in a miniature root cellar by the following method: Dig

a hole at least 24 inches deep and large enough in area to accommodate the material you are to store. Put about two inches of leaves, coarse gravel or boards in the bottom and set containers of plant material on this porous floor. The containers may be mesh bags, flower pots, or any other so long as they will not hold water. Cover with about sixteen inches of leaves, firmed but not packed, and lay a few boards loosely over the top for protection. Natural moisture and soil temperature will provide excellent storage.

5. Indoor gardeners find that it pays to make the rounds of their house plants at the same hour each day with the watering can. Each plant should be given just the amount of water it can use up before the next day. (This can only be determined by experience, but give less water on cloudy days.) At regular intervals, the soil should be enriched with a complete fertilizer (read the advertisements).

6. This season of the year provides excellent native materials for dry arrangements. Let's all be good conservationists and always leave some of whatever we are collecting for seed and landscape beauty.

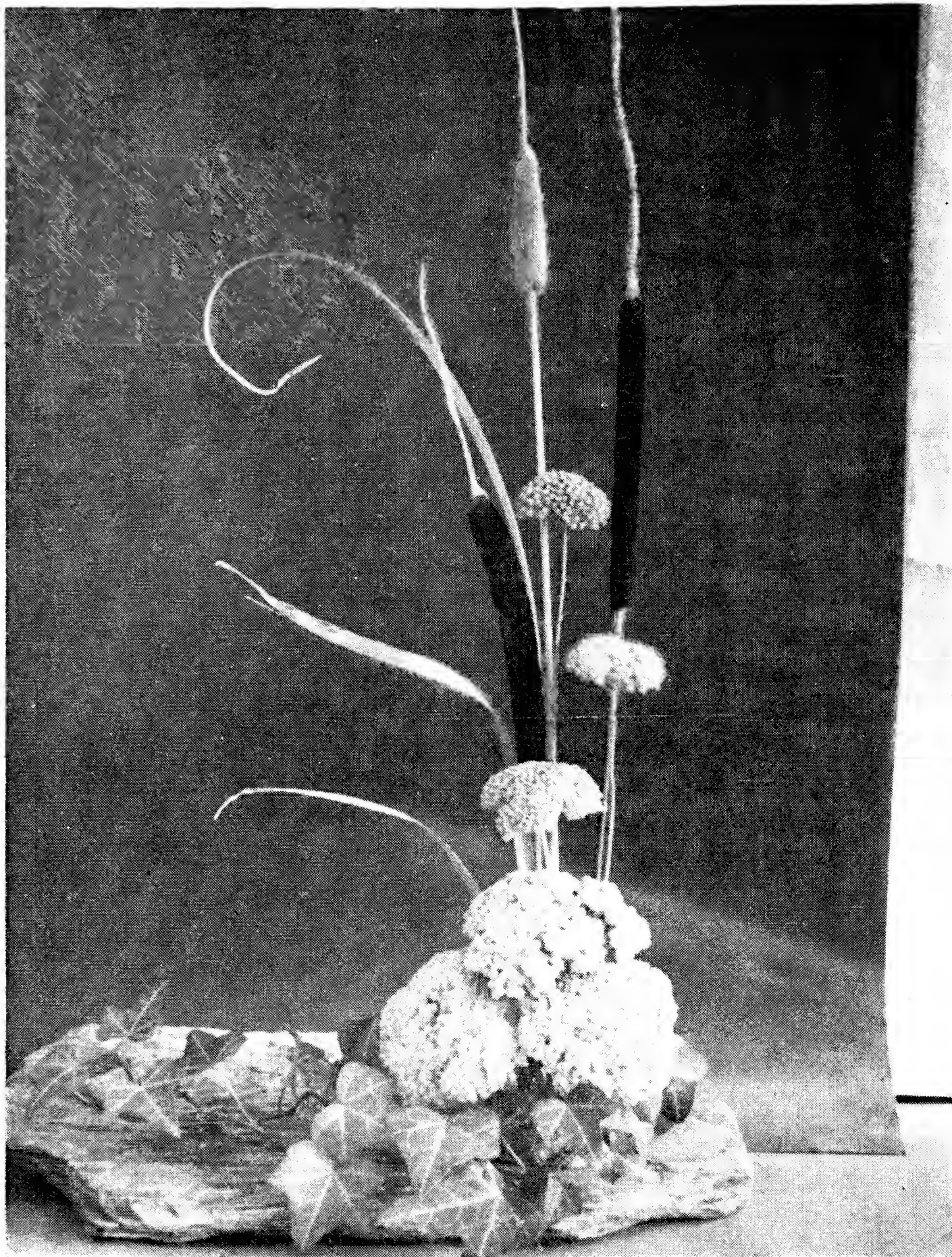
7. Birds add much to the winter interest of our gardens, and they will provide a real show if they find appropriate kinds of food dispensed in the right type of feeders.

### MARSHALL NURSERIES

Better Built Trees—Landscaping with Personality

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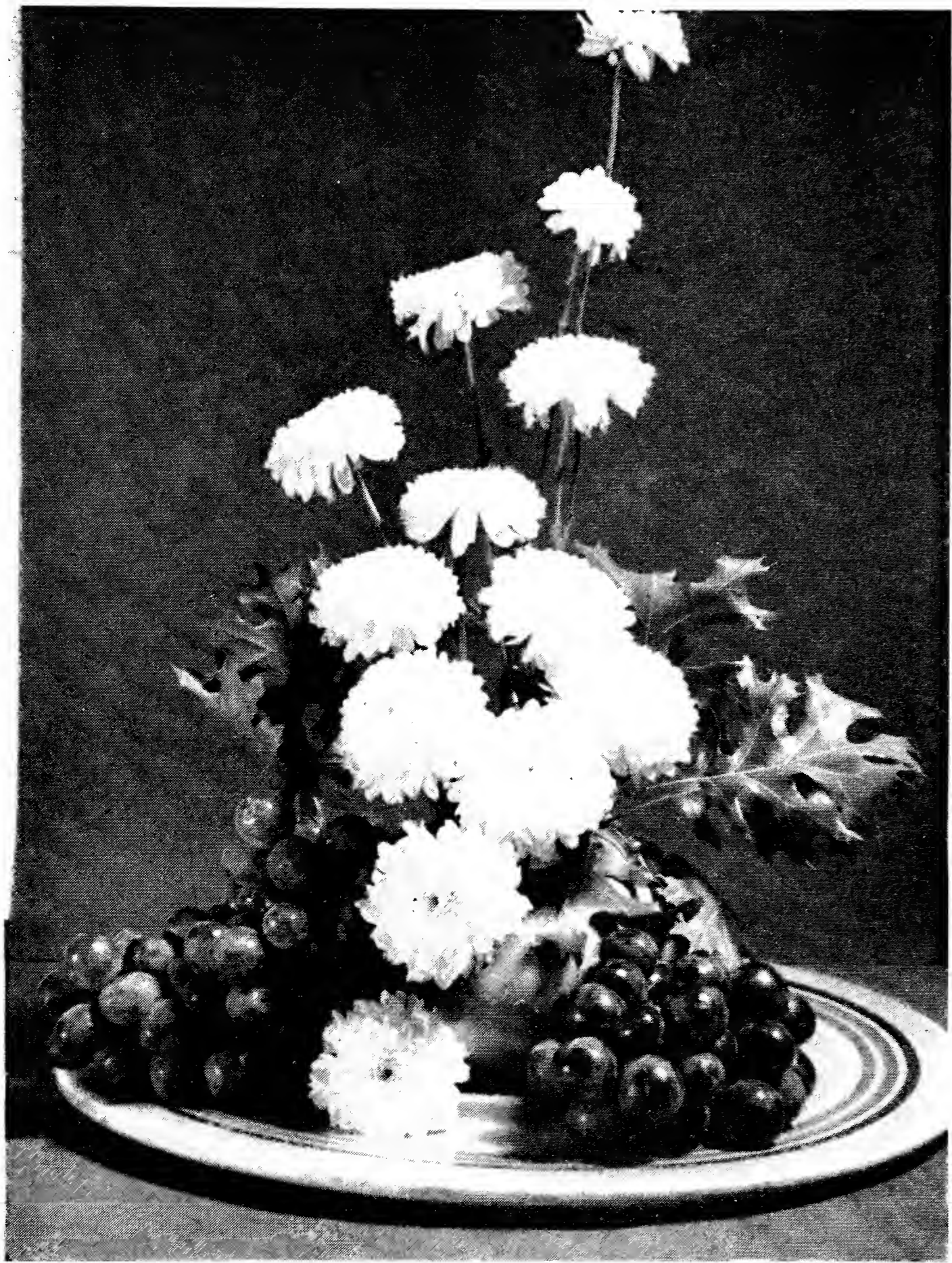


## AUTUMN COMPOSITIONS

By MR. AND MRS. RAY TURNURE

**H**ERE the soft pastels of petrified wood make a lovely background for trailing ivy. Water for the ivy (the only thing that needs water in this dried composition) can be put in any small container which can be attached to the petrified wood with florist's clay. Then brown cattails and golden yarrow are arranged naturalistically for height, line, and color warmth. This type of arrangement is a linear one and would be striking against a tan or beige wall, on a mahogany or walnut sideboard, in a study, or in a contemporary room decorated in soft tones and simple lines.





This stunning autumn center piece would be perfect for those festive fall occasions Hallowe'en and Thanksgiving. What color combinations could be lovelier or more appropriate than the reds and browns of oak leaves combined with the lemon yellow of mums. The stems are inserted in a bright orange pumpkin for a base with clusters of Tokay and purple grapes artistically arranged around it. The whole composition rests on a wooden plate. Stems of the flowers and leaves that are stuck in the pumpkin holder absorb moisture from the moist meat inside. Or, a container of water can be placed in a hollowed-out pumpkin if the arranger is of a thrifty turn of mind and a cook!

# THE LARGER VIEW IN CONSERVATION

By M. WALTER PESMAN

I HAVE been trying to think through this problem of conservation. Are we really naive in thinking we can conserve so many resources that are disappearing—and fast? Or are we actually practical in the long run? At least we ought to face the situation.

In the name of progress we have now lost millions of acres of forest lands. In its stead we have farmlands and homes. Which do we need most? Let's hold back the answer for the present.

In the name of progress we have changed section after section of grass-

*Can we choose damsites in places where they will help, not spoil, the scenery now and in the future.*

covered land into tilled acreage. We need to produce food for more and more millions of people, don't we?

In the name of progress we have used up more water than we are putting back into the soil and subsoil. Is that bad?

In the name of progress we have lost beautiful scenery, rare animals, and flowers that used to be all around us. You can't stop people from extending cities, can you?

We have taken out tons of minerals from the ground, some of which we have transformed into useful tools, and some we have stored back in a vault for safekeeping. Well, they were not doing any good where they were, were they?

Coal and oil are being used up gradually and at an increased rate. They, like the minerals are unrenowable. But they have given us power—energy which we need in our living scheme. It all comes down to the realization that we are passing on to our children less forests, less topsoil, less scenery, less drinking water, less minerals and oil, and recently, less good breathable air.

Are we justified in this short-changing by saying that progress can only be bought that way? There is still one big question—did we buy progress at too high a price? Are we gyping ourselves and our children? Up till now we have done too little thinking about it all. The people who have stood for conservation were merely called naive, dreamers, unrealistic, unprogressive, do-gooders, egg-heads, or idealists. Now the tide is changing somewhat, and very practical businessmen are thinking of re-







*Can we find a way of leaving creek beds after placer mining in such a shape that they will become beautiful again?*

sources for the future, planning for preservation and conservation, gathering up the loose ends of good scenery, and watching the proper growth of cities, just to mention a few indications. Conservation is becoming less emotional, more realistic. Here are just a few examples.

Modern city planning tries to preserve green belts around the city at logical distances — breathing spaces. This planning also allows natural drainage channels to be kept open. Soil conservation is a more and more established practice in farming. The Tennessee Valley Authority has shown to the world that planning can achieve many forms of conservation without future loss. There is a beginning in finding the proper balance between the production of power, use of water for irrigation, and protection of natural scenery. In many cases it is not a question of “either-or” but the proper integration of “this plus that.” State parks, national parks, national forests, and special “pre-

serves” help protect wildlife and aid recreation. (The latter, by the way, necessary to aid conservation of human sanity.) Unrenewable resources are at least recognized as such, and we are beginning to be less wasteful in their extraction. In the meantime we are on the way to needing them less, since we have other ways of creating energy. Man recognizes himself as a thinking animal, not merely a grasping animal. There is still hope for him.

Now, in conclusion, let us point out some areas where we need to do still more and careful thinking—perhaps the solution is just a matter of a little stronger brain action. Let us merely put the problems as they now appear to some of us, or as they will to our children.

1. Do we need to leave a collection of beer-cans, pop bottles, kleenex, tomato cans, film boxes, chewing gum wrappers, and such to future ages, so that they can reconstruct how this benighted generation used to picnic?

2. Can we find a way of leaving creekbeds after placer-mining in such a shape that they will become beautiful again?

3. How can we keep enough columbines, orchids, gentians, and mountain lilies for our children to enjoy?

4. Can we choose damsites in places where they will help, not spoil scenery, now and in the future?

5. Will we remember dust storms at times of two dollar wheat?

6. How about a balanced budget on forest use and growth?

7. In how many ways can we dis-

cover renewable materials to take the place of unrenovable resources?

8. Can we find a "sewage disposal system" for smog and such?

9. There must be a way of preventing "tailing ponds and tailings" from covering acres of mountain scenery. Industry has made use of waste products in many ways.

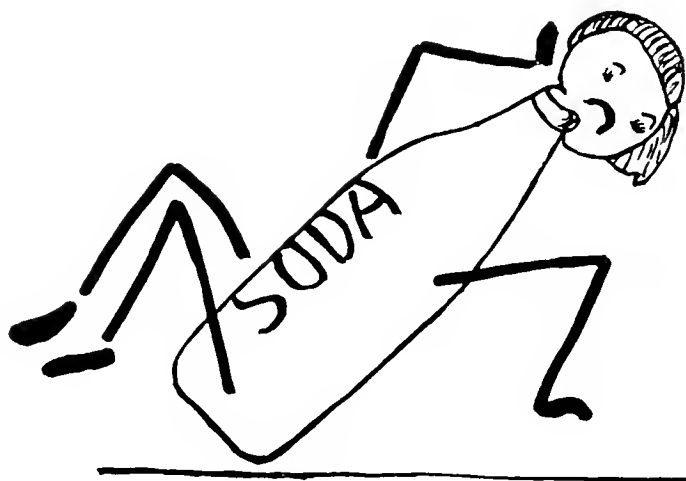
10. How can we extend human living needs and not destroy natural surroundings?

We had better solve these problems now because we'll create a lot more as we go on, if I know the nature of man (and woman).



*There must be a way of preventing "tailing ponds and tailings" from covering acres of mountain scenery.*

Those who attend the Botany Club meetings referred to in the Calendar of Events are urged to bring hand lenses, manuals, and specimens for identification. An invitation is extended to any interested person. The monthly meetings will be held on the second Monday of every month until further notice.



# DENVER OF THE FUTURE—A TREELESS CITY

By STAN RATLIFF

**IMPROBABLE?** Yes. Impossible? No! How could such a catastrophe occur in a metropolis known as the "City of Trees"? The answer is simple; our city's tree population consists primarily of three species: (1) poplar (2) maple (3) elm. If anything should happen to these three trees, Denver would be for all practical purpose, a treeless city. A look into the past, present, and future of our tree situation will help explain our problem.

## Past

The city of Denver had few trees in its early days. Therefore, many people brought in cottonwoods from the nearby creekbeds and planted them on their property. Mayor Speer initiated a give-away program whereby taxpayers were given maples and elms to plant. During this era public interest in trees was high. In fact, enthusiasm led to over-planting. The people were proud of their trees and were interested in their growth and proper care.

## Present

Our city now has thousands of trees; but what is happening to them? Let's take a look. The poplars are

being removed. Large size, weakness to drought, production of cotton (female), and susceptibility to disease have made this species undesirable for crowded city use. It appears that, present weather conditions prevailing, most of our poplars will be gone in ten years.

Next, the maple, considered by many our most beautiful tree. Although many of our maples have reached maturity, the evidence of their premature disappearance has shown itself in the past year. The first sign is the yellowing and dropping of the leaves. Last year it was noted that trees throughout the city were showing the first signs of premature death. This year it is not uncommon to see a whole block of maples turning yellow. The 64 dollar question is, what has happened to the former public interest? Why are people standing by letting their trees die? The answer, at least in part, is that many people consider their trees a liability; something in the yard that someone planted before they bought the property, another bill for trimming, another notice from the City Forester's office. Further, drought conditions require extra care which

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the trees are not getting. Proper watering takes extra effort and takes water from the lawn. As with poplars, if present weather conditions and public indifference continue, most of our maples may be gone in 20 years or less.

### Future

Well, we can say, at least we have our elms left. But do we? At the present rate of westward movement, Dutch elm disease can deal a death blow to our elm population within thirty years. In a recent article, published in *Parks and Recreation Magazine*, Colorado is mentioned as hav-

ing reported Dutch elm disease. Although no positive evidence has been brought forth, it would be foolish for us to stick our collective heads in the sand and hope the disease will pass us by.

In view of the fact that the present tree population of our city will not be with us much longer, we must look to the future. By thoughtful planting of trees that are adaptable to the site, that is, a small tree for a small site, etc., rather than repeating the past mistakes of planting trees indiscriminately, we can look forward to the continuance of our claim as Denver, the city of trees.



### Landscaping Makes Our Highways Safer

Landscaping and planting of roadsides to make them safer, quieter, and more beautiful is favored by practically all motorists, according to the American Association of Nurserymen.

Roadside plantings, while beautiful, also should be functional in purpose, it is said. Properly planned plantings screen out noise and dust and other distractions, deaden traffic

noises, make highways quieter. Certain types of shrubs can serve as soft landings for cars going off the road on dangerous stretches or curves, while shrubs and trees also in many cases can prevent landslides and falling rocks, as well as erosion and its consequent damage and unsightliness.

Motorists are said to feel that if they have to pay for roads through tolls and taxes they ought to be as attractive as their tax money can make them, as well as the safest possible surface on which to drive.



## CHRISTMAS TREE MANAGEMENT

ARTHUR L. NELSON, *Assistant Regional Forester,  
United States Forest Service, Denver, Colorado*

CHRISTMAS tree production so far in Colorado has come entirely from natural stands of sapling and small pole-size Douglas-fir trees. So far there are no Christmas tree farms in operation, although some tree plantings on the Pike National Forest have been made with Christmas tree production in mind. To date therefore, the management of land for Christmas tree production has been confined to National Forest lands with natural over-stocked or dense stands of Douglas-fir trees. These stands were the result of natural restocking on severely burned lands cut over for sawtimber between 1870 and 1880.

Christmas trees have been cut from young stands of Douglas-fir, no doubt, since white men first began spending the Yule season in their homes in this area. The first trees cut for the local market from the Front Range were cut in about 1918. Cuttings increased, and in 1921 it was decided to find out just what effect thinning these stands had on growth of the residual trees and future production of Christmas trees.

Four one-acre plots in a typical sapling stand of even-aged Douglas-fir were thinned so as to leave the remaining trees spaced 5, 6½, and 8 feet in three of the plots, with the fourth left unthinned. The residual trees numbered 2,402, 1,490, 927, and 493 in the four plots respectively.

Final measurements, made in 1950 after 29 years, show a definite advantage of moderate and heavy thinning over light thinning in increased diameter, with a slight but not significant advantage to the moderate thinning. These measurements interpreted in terms of sawlog production indicated that this thinning would reduce the time to grow sawlog timber by light early thinning 20-25 years and moderate and heavy thinning 35-40 years or a sawlog harvest in 125 to 150 years instead of 150 to 175 years.

Records of useable Christmas trees sold in the original cut are not separated by plots but a total of 2,000 trees were removed. The total return was \$100.00 per acre. No deductions for land management development or protection costs were made,



*A Douglas fir stand near Indian Creek Ranger Station, Pike N. F. that was thinned for Christmas trees, as the sign indicates. Photo courtesy of the U. S. Forest Service.*



*Pike National Forest, Jarre Canyon Christmas tree area. Thinning Douglas fir for Christmas trees. Photo courtesy U. S. Forest Service.*

but after allowing \$30.000 for Administration and harvesting, a net income of \$70.00 was obtained. When one compares this return at 30-40 years of age to sawlog stumpage anticipated at 150 years of approximately \$30 to \$40, it is clear that management should be directed toward harvesting these Christmas trees as intermediate cuts to obtain the maximum economic return. In places it will prove most profitable to grow only Christmas trees but there may be other soil and watershed management requirements that would rule out this practice on public lands.

After growth measurements were taken in 1950, the plots were cut over for a maximum Christmas tree production during 1950-1952 or 30 years after the original Christmas tree harvest. This second cut produced a total of 770 trees having a gross value on the stump of \$1,045.77. The con-

trol plot produced 158 trees, the lightly thinned plot 288 trees, the moderately thinned plot 176, and the heavily thinned plot 148 trees. The return from the lightly thinned plot was \$200 more than that from the heavily thinned plot. The return from the 4 acres (includes the unthinned plot) averaged \$262 per acre. Omitting the unthinned or control plot, the thinned stands averaged \$277.00 per acre. This plus the first return of \$100.00 per acre indicates a gross return of \$377.00 per acre for the two cuts. A tidy return from wild land.

Tests have also been made to determine the results of planting for Christmas tree production. Spacing of trees at a four foot distance in rows four feet apart has been tried west of Monument, Colorado, but the results are not yet available. It appears to the author that this spacing is ideal for

commercial production permitting some return within 10 years from selected trees. By planting a number of trees each year for a period of 10 to 15 years, or indefinitely, an individual could assure himself of a return each year after the trees are of the size desired. Actually, planting for Christmas trees may be the only way to produce them economically as there have been no large areas burned over to restock since the beginning of this century.

The Pike National Forest, up to a few years ago furnished around 15,000 Christmas trees each year for the Denver-Colorado Springs market. Recently the cut has dropped to between 4,000 to 8,000 trees. This is due to the fact that the stands have grown to such extent that trees to be cut are around 6 to 8 inches or larger in diameter, and the cost of cutting the Christmas trees is therefore materially increased over those obtained from smaller diameter trees. The Roosevelt Forest, with headquarters at Fort Collins, has been cutting from 14 to 16,000 trees annually from Douglas-fir sapling stands along the eastern slope. Probably around 15,000 trees all told from private forests are sold in the Denver market. In addition to these, around 60,000 to 75,000 trees are imported from the great Christmas tree producing states such as Montana.

The implication of the findings in the studies mentioned above to private lands would indicate that if you owned land on which there were stands of dense Douglas-fir saplings, it would be wise to thin them frequently for cash returns. It is clearly indicated that if land of the Pike's Peak granite soil type were available at not too great an expense, a plantation of Douglas-fir for specific pur-

pose of growing Christmas trees for the market could be made profitable.

Cutting of Christmas trees from our natural stands, even though rather heavy, has not impaired the watershed conditions as a result of the cutting. In fact, it is often said that this thinning has increased the amount of snow pack, and hence increased the water supply that comes off those lands. However, it is very important that the lands be protected from undue erosion, be given fire protection in the form of slash disposal, and general cleanup. It should also be mentioned that the sale of Christmas trees in the National Forests is a volume business, and due to the limited personnel available, it is almost impossible for the forest rangers to take care of individual requests for the cutting of Christmas trees on their units. We have tried out in the vicinity of Boulder, Colorado, the marking of Christmas trees in advance and allowing the cutting of these trees under cash permit on certain specified days by individuals. The Forest Service has tried to work out a system to make it possible for people to obtain their own Christmas trees off of the forest.

The Christmas tree business is one which has relied upon dense Douglas-fir stands. These have grown almost too large for utilization as Christmas trees and unless we go to the white firs or alpine firs, it may be necessary at some future date to obtain all our trees from commercial plantations or the extensive areas of natural reproduction in Montana and the Pacific Northwest.

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Educate your family NEVER to throw bottles, cans or other trash on the highways or in any other public place.





## START YOUR WINTER BIRD FEEDING NOW

By R. W. ARMSTRONG

LITERALLY speaking, the following article is for the birds. No, let us say it is for the bird lovers and those who like to feed and protect our friends from the elements during cold weather. Whether we know it or not, our feathered friends do much to help us. Most of us, including myself, buy several dollars worth of insecticide a year for the destruction of insects. I'm not saying we can get along without insecticides, but that we can help ourselves by attracting and feeding the birds during the cold winter months.

### Economic Importance of Birds

A very interesting experiment was tried many years ago in Massachusetts. An old orchard was the site of the experiment and every effort was made to attract various birds. Through this feeding, such birds as the nuthatch, the chickadee, the woodpecker, and the brown creeper were attracted to the site. Several months later the contents of their stomachs were studied and it was found that the chickadees were feeding on the fall cankerworm moths and the larvae

and pupae of many other injurious insects. This orchard produced fruit the following year while other old orchards near-by were stripped of their foliage.

If you have trouble with ants, hire a flicker! Two hundred and thirty stomachs examined at the U. S. Department of Agriculture showed that ants amounted to 45% of the flicker's yearly food supply. In two cases the number of ants in a single stomach exceeded 3,000. The flicker is probably of little economic importance but this was an illustration to show the vast number of ants that are consumed by flickers.

### Why Feed Birds

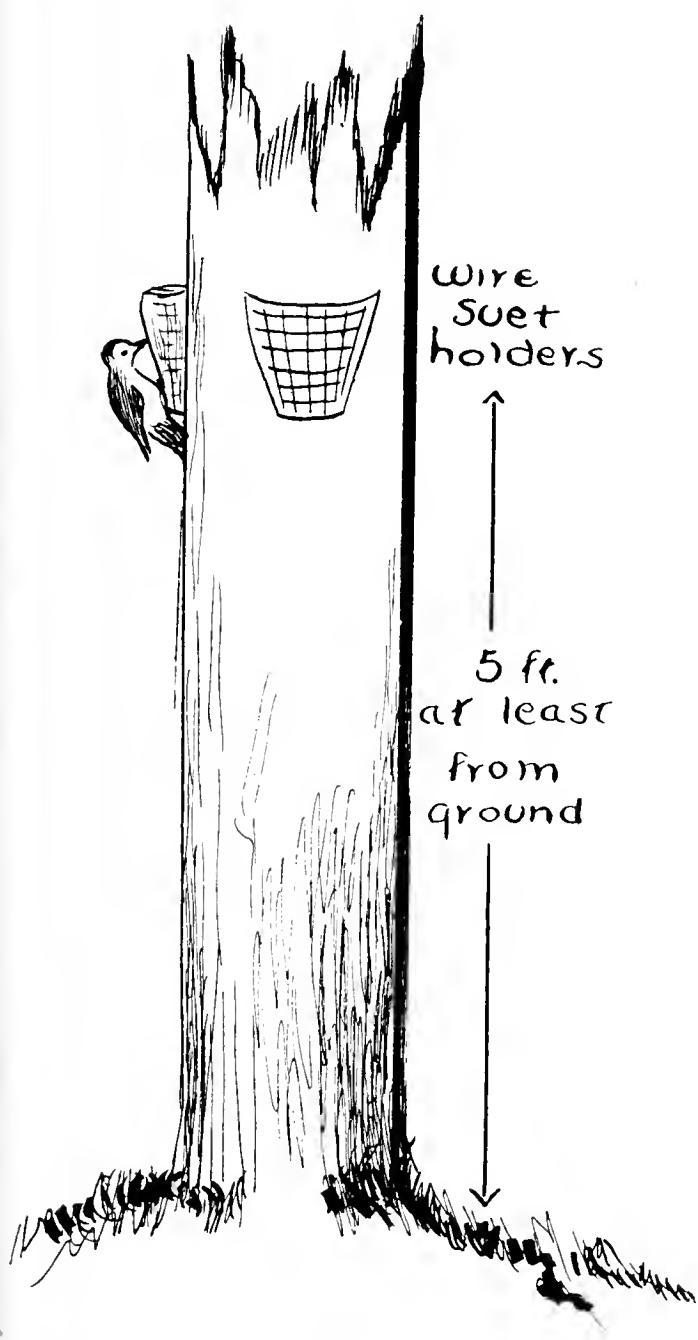
When we are skiing and get cold and hungry, we go to a shelter for protection from the biting cold and to have something to eat. It isn't this simple for a bird. Many of the birds migrate from the mountains to escape the severity of winter weather. Snow and ice cover the ground and trees making it very hard to find sufficient food. Birds, like humans, use up a large supply of energy during the



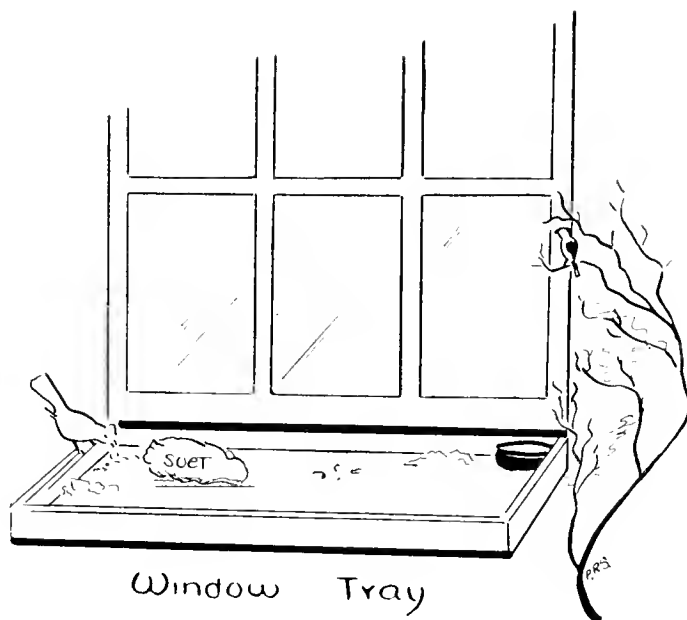
winter months just to keep warm, and when food is not available they die of starvation and exposure.

### Kind of Birds to Expect

The variety of birds attracted to your feeder will vary with the season and the locality. The following are some of the more common birds attracted in the Denver area: sparrows, juncos, chickadees, flickers, finches, nuthatches, brown creepers, woodpeckers, robins, and magpies. If you have a feeder in the mountains you will probably receive an even larger variety of visitors. Pheasants may be attracted by attaching dried corn on the cob to spikes protruding above the snow line.



Winter use for trees or clothes line poles.



*This simple window tray will give you many hours of bird-watching pleasure.*

### Type of Food To Supply

Most birds are not particular as to the type of food served during the winter months but the better foods will attract the best variety of birds. Chickadees, nuthatches, and woodpeckers prefer sunflower seeds and suet. Juncos, finches, and other field birds will prefer a good handout of crushed corn, millet, rape, or hulled oats. If you like sparrows, just plain bread crumbs will do. I've found that sunflower seeds will discourage sparrows because it is very difficult for them to crack the outer shell. Last winter I found that the juncos will take over the feeder and that the sparrows just had to wait their turn. Some of the best foods are hulled oats, millet, rape, crushed corn, sunflower seeds, peanuts, and suet. Wild bird seed mixtures can be purchased at most of the seed stores and some of the pet shops.

### Shrubs Attractive To Birds

For a detailed list of shrub material please refer to ROCKY MOUNTAIN HORTICULTURE IS DIFFERENT by George Kelly.



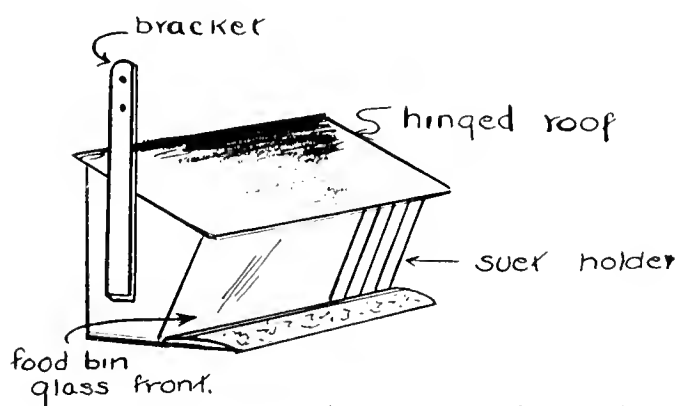
*An attractive feeder will allow you to study nature through your window.*

### Types of Feeders

There are thousands of different feeders on the market today and any of them would probably serve very well, although there are some advantages and disadvantages to the various designs.

A good feeder can be constructed from the wood of an orange or an apple crate in the home work shop. I think a rotating feeder is very good because it prevents snow and ice from covering the food supply. The best feeder for a close view of the birds, is the window feeder (see illustration). This feeder can be anything from a slab of wood to a very elaborate glass-inclosed one. Your old Christmas tree put in the yard and strung with popcorn, cranberries, raisins, and other food can be used as a feeder and as protection. The following is a list of suggestions for better construction of bird feeders:

*Stationary feeder:* Make good wide

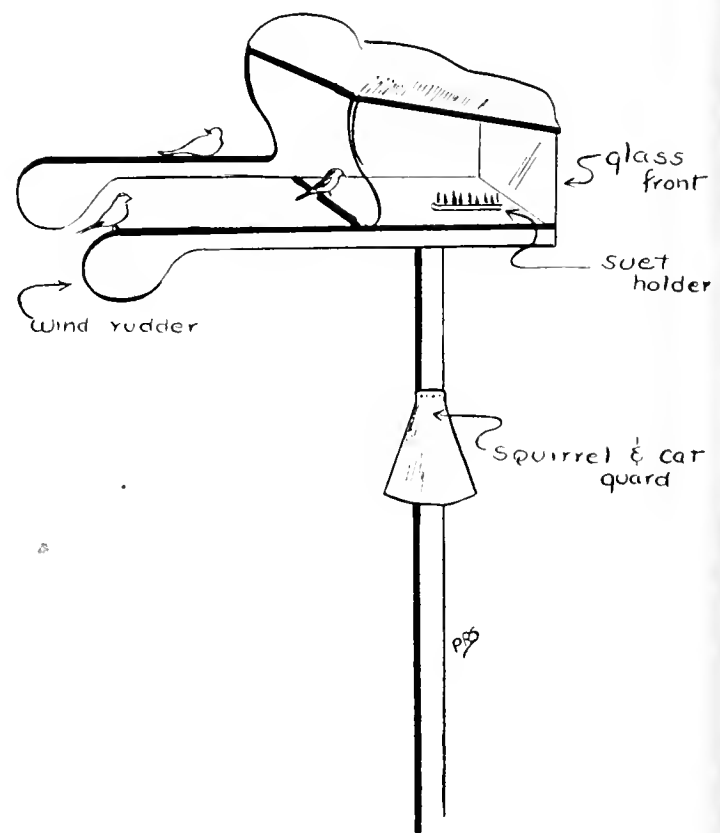


*Window feeder - for close view and study*

roof projections, construct the feed bin so that the feed will flow freely and automatically. Food bins should have a glass front for observing quantity of seed remaining in the bin, and a perch or perches should extend the full length of the tray.

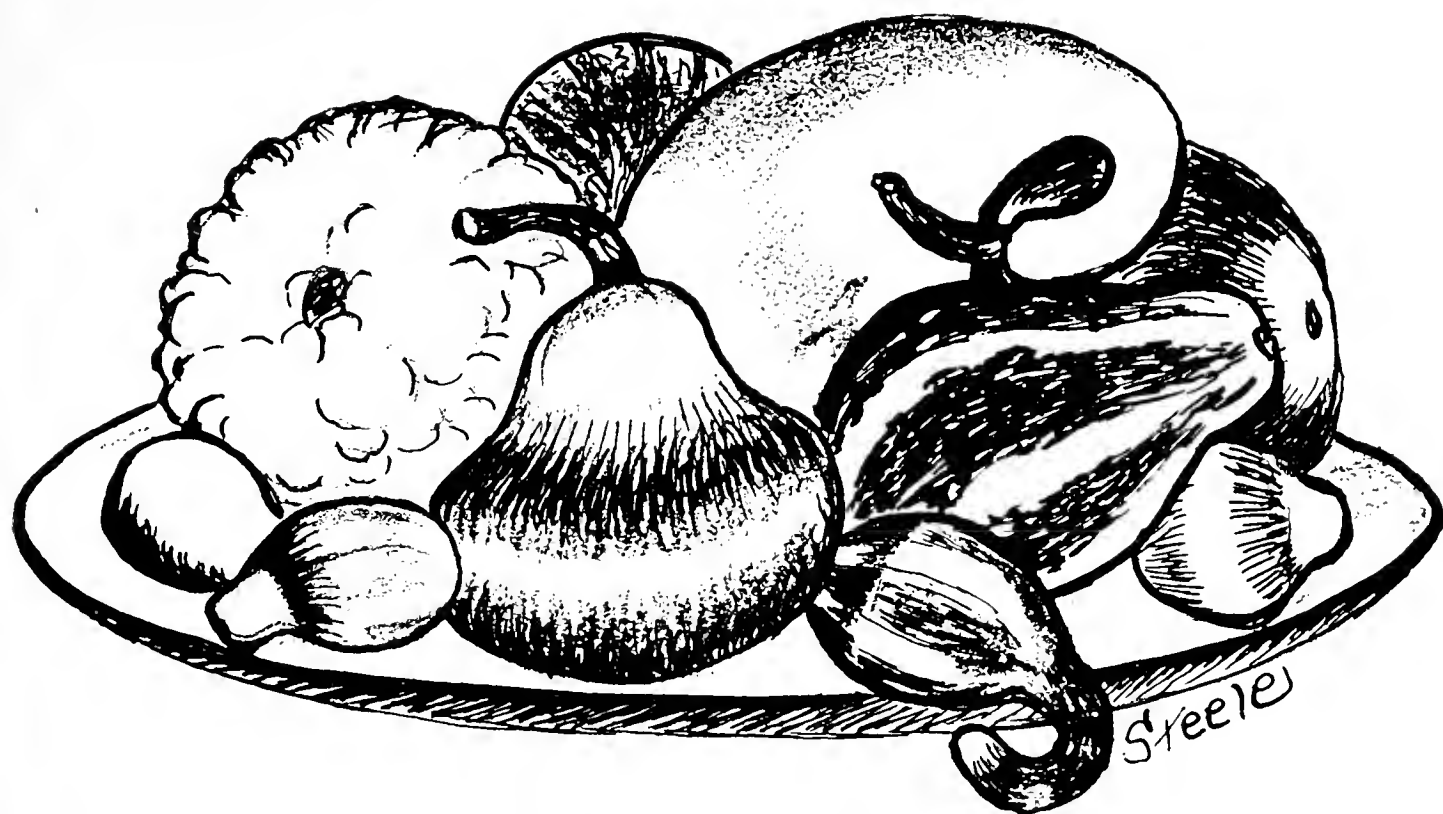
*Rotating feeder:* Construct so it will turn with very little wind pressure. Use wood for the roof and especially for the food container. Never use metal parts where the birds will alight because they cannot obtain a grip.

Birds are not particular as to the type of feeder as long as a continual supply of food is available all winter.



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- Picture courtesy of R. W. Matteson, Wild Bird Supply Co., Grand Rapids, Michigan.



## CURING GOURDS

By PAULINE ROBERTS STEELE

A GOURD should be mature and the shell hard, hard enough so that a thumbnail cannot mar it before it is harvested. A gourd, one that is really mature, will not be hurt by frost on the vine. U. S. Department of Agriculture Farmers' Bulletin No. 1849 recommends the vines be killed by frost before they are gathered. However, they should not be subjected to hard freezing. This area's growing season is a bit short for growing gourds. We hope you planted them early.

A cool, well ventilated shelf, tray, or crate makes a good curing place. Spread them out to insure air circulation. For best results the gourds should cure slowly, and it is not uncommon for some varieties to take six months or a year to cure. The thick-flesh Cucurbita type gourd should be picked by the first frost. The stem should be starting to shrivel and the rind really hard before it is harvested. Gourds of this type are more difficult to cure than the thin skinned ones. All types of gourds

must be handled carefully, as bruises will discolor and cause them to soften and decay. Occasionally one will develop a spot of mold. Wipe it clean with a soft cloth and seldom is the gourd lost. Any excessively moldy or decayed gourd should be removed promptly from the others. Do not puncture the hard outer skin in an effort to hasten drying. It may hasten the drying of some but your losses will be greater.

One may use paste wax rubbed on with a soft cloth to polish the gourds. Also, for thoroughly dried gourds, shellac or varnish will give a high gloss.

Gourds of the thin-walled or dipper type can be easily cut or carved when mature but not thoroughly dried. They make beautiful and unusual flower containers. Remember to use some of the more colorful and interesting shaped gourds in that special Thanksgiving and Christmas table arrangement. Gourds add a great deal to dried winter arrangements.

# THE MARVELOUS WORLD OF PLANTS

By HELEN MARSH ZEINER

**I**N conservation we are frequently concerned with maintaining or establishing plants, so in this connection we might well consider how plants in nature get from place to place—truly one of the marvels of the plant world.

Bare areas in time become covered with plants, starting with the very simplest forms and gradually changing over a period of time to more complex types. Nature provides means for these plants to get into these areas. Also, it is obvious that young plants need to get away from the parent plant to eliminate crowding and to provide a better source of nutrient materials for the offspring.

Some plants spread by means of runners or rhizomes, a slow but sure method. More spectacular and interesting are the ways in which seeds and fruits and other plant propagules are dispersed by wind, water, and animals (including man), aided at times by special mechanical devices which are a part of the structure of the fruit.

Wind can carry spores for many miles, and spore-producing plants are usually the pioneers in bare areas. Some seeds are tiny enough to be wind-borne. Other seeds and fruits have special structures to enable them to travel by wind. Some have papery wings—for example, maple, ash, elm, linden, or basswood. Some have hairs which may be variously arranged; the very effective parachute-like appendage of the dandelion is an example of this. Some fruits, like the ground cherry, have a membranous envelope which makes them very buoyant. Still another effective wind-carrying device is illustrated by the tumbleweeds, familiar to anyone who has driven

east of Denver on a windy day! The whole ball-like plant breaks off and rolls along, scattering seeds as it tumbles. The Russian thistle is only one of several common plants which travel in this manner.

Water carries some seeds and fruits. Those with membranous envelopes float along, together with many light-weight seeds. Heavy fruits may be rolled along. Many seeds are carried on floating debris and deposited along the stream far from the point of origin.

Animals aid immensely in distributing seeds to new areas. Some seeds and fruits are “hitch-hikers”, being sticky or equipped with barbs or spines to cling to the fur of animals (or unfortunately to the clothes of man) and to be carried far and wide—witness the familiar cocklebur and the stick-tights which have such an affinity for the socks of the human!

Many fruits are edible, and the seeds pass through the alimentary tract of the animal unharmed or even benefitted by the digestive juices. Birds distribute many seeds in this fashion.

Man, although considered with other animals, is in a class by himself for he deliberately carries seeds from



“Matchie”



place to place where he plants and cares for them. Man has also been responsible for much accidental seed distribution. The many exotic species to be found along railroad right-of-ways are an indication of how he distributes seeds unintentionally.

Some plants have mechanical devices which throw the seeds some distance away from the parents. These are interesting, but not generally as effective as other means of seed dispersal in getting offspring a long distance from the parent. Unequal

growth or shrinkage causes stress and acts as a spring, throwing seeds a few feet from the parent. Touch-me-not and wild geranium are common examples of this type of dispersal.

Some plants, notably the grasses, have "self planting devices". Absorption of water and subsequent drying out cause the long awns of some grasses to twist, and this in turn causes the sharp point of the grain to bury itself in the ground. *Stipa* or needle grass, common in Colorado, is the classic example of this.

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## EVERGREENS FOR THE ROCKY MOUNTAIN AREA

**M**ORE and more evergreens are becoming the backbone of home landscaping. They should be. Evergreens are beautiful; they give color in winter as well as in summer. And to residents of the Rocky Mountain Area where evergreens cover our mountain slopes from the foothills to timberline, these trees have an emotional as well as an aesthetic appeal.

What evergreens should we use? Any evergreen? By no means. "Rocky Mountain Horticulture is different." Certain plants, whether evergreen or deciduous will *not* grow in Colorado, or, at least, will not prosper here, unless given special treatment. These are for the experts—and the experts who are willing to accept many failures in order to get a single success. If you buy from an established local nurseryman you will never have these unsuited evergreens foisted upon you. In this category are the Hemlocks, Sequoias, Redwoods, Yews, Arbor Vitaes, the true Cedars (i.e. the Cedar-of-Lebanon and others), Cypress, Falsecypress and most Larch trees. Only the expert should try any of these.

You *should* buy the following Colorado natives: Ponderosa Pine, Limber Pine, Pinyon Pine; Colorado or Blue Spruce; Rocky Mountain or *Scopulorum* Juniper (often called "Cedar," though not a true cedar), Oneseed or *Monosperma* Juniper, Communis or Low Juniper (keep in all-day shade), Utah Juniper; and—most beautiful of all—White or Concolor Fir. Omit Alpine Fir—it prefers high mountains. Buy *no* exotic firs. The Foxtail or Bristlecone Pine of Colorado is superb, when established, but it is often difficult to transplant.

To these "fool-proof" natives add Austrian, Scotch, and Mugo Pines; Virginiana Juniper (often called "Redcedar"), Pfitzer, Savin, especially Russian Savin, and Tamari Junipers. For "creepers" under the low window use Sargent Juniper, Black Hills Creeping Juniper (now called "Marshall Creeping Juniper") and Glenmore Creeping Juniper (a true dwarf).

From these "safe" trees you can get every size, texture and color.

ROBERT E. MORE

## BOY SCOUT CONSERVATION PROGRAM

**D**URING the year 1954, the U. S. Forest Service set aside for the Boy Scouts of America, an area of about 50 acres known as the Gold Hill conservation area. This area in the Ward mining district was very adaptable for work to be done by Boy Scout Units.

First the spring, in order to furnish water, had to be cleaned out and made serviceable. To accomplish this, a large hole was dug and a fifty-gallon oil drum was placed in the hole making a small well affording plenty of water for any campers or units that might be in the area. The flow was directed in such a way as to most benefit the area.

Rains in the area have cut a very deep ravine. The Boy Scouts carried rocks, timber, and loose soil to make small check dams which have prevented any further cutting and washing of the soil. The Boy Scouts of Capitol Hill District also cut dead brush and small timber from the

higher area and carried it down to the ravine. By cleaning out this dead timber they have eliminated the fire hazard in this area.

In some parts of the area where the grass was not growing very well, the Boy Scouts have transplanted roots of growing grass which at last observation were doing very nicely. The dams were holding the water back, the ravine was filling, and the spring was clean and provided clean water for any unit which might like to have a nice place to camp and to help Mother Nature with her work.

Another project carried out by the Boy Scouts of America is the Genesee Park conservation area. This project is worked on more than any other in the Council Area because of the need for conservation there. On this project the dams are built with a great amount of care and under the special guidance and supervision of the forest rangers.



*A series of check dams just completed by the Boy Scouts in the Genesee Park Conservation Area.*



*The above check dam was built in a deep gully. The banks were sloped so that grass could become established and prevent further erosion.*

These dams or "checks" that are built by the Boy Scouts help prevent run-off water from cutting gullies. This checking of run-off also allows more water to soak into the ground, more grass can grow which helps hold the soil, and young trees, both wild and many planted by the Boy Scouts, can take hold and mature.

The conservation program has been very successful in the area mentioned and in the future the program will be carried out on a much larger scale

because of greater numbers of boys in scouting and because there are more areas which need some form of conservation.

LEON BARTHOLOMEU,  
Troop 122, Age 12  
years.

Many thanks, Leon, for such a clear picture of the Boy Scout conservation program. With such groups as yours working so hard for conservation, national and local government efforts are sure to have the help they need for success.—Editor.

## And We Thought The Pixies Were Responsible For Autumn Leaves

Once more science disillusion us youngsters. Professors of the botany department of the University of California in L. A. have found out that leaves fall when a growth hormone, *auxin*, (one of the first ones to be discovered), gets equally distributed between leaf and stem. Normally, in a healthy, mature plant, leaves are richer in auxin than stems.

Cotton and beans have been found to drop their leaves more readily in fall after the stems have been given extra growth hormone.

All of which seems to spoil the nice stories about leaves being painted by artistic pixies. Science claims the colors were in the leaf to begin with, anyhow, only covered up by this green chlorophyll we hear so much about now. Well, Chlorophyll and auxin aren't such bad names for pixies, after all.—MWP.



## JOIN A CONSERVATION CLUB

How can one person stop the waste of water, soil, forests (the home of our wild life) and many valuable minerals? The answer is quite simple—join a conservation club or other youth activity which sponsors conservation. When working alone little can be done, but as a member of an organization nothing is impossible. Conservation clubs aren't "too much like school work" because they have action. Members take tours of fish hatcheries, bird nesting and rearing areas, animal refuges, tree farms, and soil and water conservation projects. Rainy, cold days can be spent viewing movies and film strips on conservation. Our government employees in the wild life service, forest service, and soil conservation have displays and demonstrations suited for indoor conservation meetings.

After a few of the above activities, your club can decide what their project will be. From there on the fun really begins. Saturdays and holidays will be spent building nesting areas for game birds, preventing soil erosion in the parks, planting trees in the water shed or community recreation area, or any one of the many places where conservation needs you.

Everyone has a job but we can't sit back and wait for someone to take us by the hand and lead us to our work. *Join a Conservation Club.* Contact a local representative of the Isaac Walton League, or the Boy Scouts of America, or the Girl Scouts of America, or the 4-H Club Agent, or ask your home room teacher if she might help organize a club. A handy bulletin, **GUIDE TO A JUNIOR CONSERVATION CLUB** is available through the State of Colorado—Dept. of Game and Fish.

## Children's Trees Newest Wrinkle

One of the newest wrinkles in the home gardening field, says the American Association of Nurserymen, is to plant a tree for each child in the family and hang a tag or brass plate on it, stating:

"This tree planted by ..... at the age of ..... years."

The trees are made the responsibility of the children, who care for them and watch them grow. In later years, as both the trees and the children mature, the trees are a constant source of pleasure to both children and parents. Not only does the practice give the children a knowledge of and respect for trees but the satisfaction of owning something that will last their whole lifetime.

Any kind of long-lasting shade or fruit tree may be planted, in a location where it also serves as a landscaping feature of the property.

---

## Federation Elects Officers

At their annual convention held in Durango, September 15, the Colorado Federation of Garden Clubs elected the following officers:

President, Mrs. W. L. Prouty, Denver; First Vice President, Mrs. Paul Johnson Hudson; Second Vice President, Mrs. Joseph Esterman, Denver; Third Vice President, Mrs. J. J. Ferrari, La Veta; Fourth Vice President, Ruth Cooper, Durango; Corresponding Secretary, Mrs. Chester Harwood, Denver; Assistant, Mrs. J. R. Mahon, Denver; Recording Secretary, Mrs. Charles Weskamp, Denver; Assistant, Mrs. C. A. Souter, Pueblo; Treasurer, Mrs. C. C. Buckbee, Denver; Assistant, Mrs. J. P. Millehem, Golden; Auditor, Mrs. Alice Calhoun, Denver.



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 Wyo.  
 Mrs. W. D. Messenger, Ogallala, Nebr.  
 Carl Schoenrock, Fairbury, Nebr.  
 W. Jack Owens, Jamesville, Calif.

**Donations to Colo. Forestry  
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Public Service Company

Miss Alice Quinn has been elected president of the Home Garden Club of Denver, for the coming year.

**HOME GARDEN CLUB  
OF DENVER, INC.**

Featuring dried flowers, seed pods, berries and grasses, The Home Garden Club of Denver, Inc., is presenting its fall show, "Sleeping Beauties Star on T.V." November 4, 5 and 6 at the Denver Museum of Natural History, City Park.

For three consecutive years members of The Home Garden Club have presented shows devoted entirely or partially to the display of arrangements using dried or dormant material; hence the term "sleeping beauties" used to describe and carry out the theme.

The schedule or guide to television programs starring the "sleeping beauties" include panel programs such as "What's My Line?" with classes for Japanese line arrangements, the triangle, horgarth curve, and crescent.

Children's programs will include, "The Legend of Sleepy Hollow" which will be dried flowers with native wood. Button gardens on display will be religious, scene, and line arrangements. Included in the mystery series, "Framed!" are pressed flower pictures, plaques and shadow boxes.

"The Hit Parade" provides innumerable classes with "Springtime in the Rockies," "Faraway Places," "Rhapsody in Blue," "Little Things Mean a Lot" for miniature and small arrangements, and even "Count Your Blessings" for Thanksgiving ideas. "The Christmas Story" will be told with coffee table, buffet, and dinner arrangements.

Members of the club will be present to demonstrate and help visitors learn the art of drying flowers in borax and to help them identify the material used in the show.

BERNICE PETERSON.

## THE BOOK NOOK

### *Books On Conservation*

Breaking New Ground, by Gifford Pinchot

Water or Your Life, by Arthur H. Carhart

The Pursuit of Plenty, by A. G. Mezevik

Our Plundered Planet, by Fairfield Osborn

Big Dam Foolishness, by Elmer T. Peterson

Western Land and Water Uses, by Mont H. Saunderson.

### *Conservation Periodicals*

National Parks Magazine, by the National Park Association

Colorado Conservation, by the Colorado State Game and Fish Department

Friends of the Native Landscape

The Land (formerly Friends of the Land).

These are just a few of the many pertinent and readable books and magazines that are available in the library here at Horticulture House. The ones listed above are particularly good for anyone wishing to learn more about conservation, but there are many other wonderful books and magazines covering just about every phase of horticulture from growing a culinary herb garden to growing orchids.

There are also delightful novels

on wilderness adventures such as Thoreau's Canoeing in the Wilderness, William O. Douglas' Of Men and Mountains, or Louis Bromfield's Colorado, the colorful true story of the Meany family of Silver City during the peak of its silver boom. Enos Mills, Colorado pioneer and naturalist, wrote glowingly on The Rocky Mountain National Park. Donald Culross Peattie has a half dozen or more entertaining books on nature as well as his Green Laurels, The Lives and Achievements of the Great Naturalists. Some may be surprised to learn that Thomas Jefferson wrote a Garden Book which the library has, and Charles M. Skinner has an absorbing book on Myths and Legends of Flowers, Trees, Fruits, and Plants.

Other magazines not mentioned above include Arizona Highways, Colorado Wonderland, Desert, Nature Magazine, Audubon, Natural History, National Geographic, American Forests, Better Homes and Gardens, The Farm, Popular Gardening, and a host of others.

It's a wonderful library. Won't you come down and find out for yourself?!!

Start a conservation scrapbook. You'll soon find out that a book will be needed for each division of conservation—soil and water, forests and grasses, and wild life.

"Whoever has a garden has three things which are needed: exercise for his muscles, food for his eating, and a spirituality for his soul."

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(Be sure to visit HOME GARDEN CLUB'S Dried Flower Show scheduled for November 4th 5th, and 6th at The Museum of Natural History out at City Park.)

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# *The Green Thumb*

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December, 1955

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# Merry Christmas and Happy New Year

## *To Our Members and Friends:*

The coming Yuletide season fills us with gratitude and new hope. May the season bring to you and your loved ones joy and good health for a prosperous New Year. For your many services and willing contributions of time and assistance we are deeply grateful. You have made it possible for more people to enjoy the services dedicated in our organization's charter and objectives. The Board of Directors of the Colorado Forestry and Horticulture Association, its staff and its officers join me in expressing to you our most sincere good wishes.



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# The Green Thumb

Vol. 12

DECEMBER, 1955

No. 9



## Colorado Forestry and Horticulture Association

Organized in 1884

"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

### OFFICERS

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Secretary-Treasurer.....Spiro L. Nickolas  
Editor.....Patrick J. Gallavan

## CALENDAR OF EVENTS

Dec. 3—Junior Workshop. Garden Center, W. Alameda Ave. and Kalamath Sts. 10 a.m. Class in miniature Christmas trees.

Dec. 4-5—Lecture program, "Adventure in the Northwest" by Stan Midgley at the Denver Museum of Natural History. Sunday programs, 2:30 and 4:30 p.m. Monday programs, 6:30 and 8:30 p.m.

Dec. 5—"Fun with Flowers," Garden Center, W. Alameda Ave. and Kalamath Sts. 10:00 a.m.

Dec. 12—Botany Club meets the 2nd Monday of every month at 7:30 p.m. at Horticulture House.

Dec. 11-12—Lecture program, "England and Scotland" by Robert Friars. Denver Museum of Natural History. Sunday programs, 2:30

and 4:30 p.m. Monday programs, 6:30 and 8:30 p.m.

Dec. 12-13-14 — Federated Garden Clubs of Denver conduct a Christmas Workshop at 9:00 a.m., Red Cross Bldg., Fitzsimons Army Hospital. Anyone interested in making miniature Christmas trees, is invited to attend one or all of these workshops.

Dec. 14 — Organic Garden Club — Horticulture House, 8:00 p.m. It will meet the 2nd Wednesday of every month. Speakers and films.

Dec. 16—Nature on Screen Series, "Kangaroo Continent" by Patricia Witherspoon—Denver Museum of Natural History, 8:00 p.m.

Mention that you saw their ad in the **GREEN THUMB** when you patronize our advertisers.

PATRICK J. GALLAVAN.....Editor      MRS. HELEN FOWLER.....Librarian  
MELANIE BROWN, Asst. Editor and Librarian  
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## THE COLORADO FORESTRY AND HORTICULTURE ASSOCIATION

A non-profit, privately financed Association.

1355 Bannock Street

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## YOUR EDITORIAL COMMITTEE

**T**HE work of the editorial committee has been evident in the quality of The Green Thumb during the past year's issues. They have done an excellent job and we would like you to meet them and know the job they perform in bringing this fine publication to you.

Mr. M. Walter Pesman, who is well-known as a landscape architect, serves as chairman of the committee. He is a prolific writer and has furnished many excellent landscape articles. He is also responsible for many of the good filler items of popular garden interest.

Mrs. Helen Marsh Zeiner, our secretary, does an excellent job of compiling the minutes of our monthly meetings. She is our house plant expert and writes the familiar column, "The Marvelous World of Plants."

Mr. Fred Johnson, well-known past-president of the Association, is now our conservation editor. He has worked hard in keeping you posted on the State Parks and forestry problems. As a retired forest service official he has many valuable contacts for conservation material.

Dr. Moras Shubert, the congenial botany professor from Denver University, writes the Seasonal Suggestions and additional material from time to time. He has also given us

many good ideas on composition, advertisement, and many other things that have helped the standard of our magazine.

Mrs. Vella Conrad finds time between the rose garden and numerous other activities to obtain advertising, stories, and other material for us.

Mrs. Pauline Steele furnishes all the nice line sketches used for illustrations in our publication.

Mr. and Mrs. Ray Turnure provide the excellent photographs for our monthly arrangement feature.

Mrs. J. V. Peterson is our able ghost writer. With her help we have received many fine articles from people who are experts, but do not like to write.

Mr. Scott Wilmore gives us a commercial contact between the nurserymen and the gardening public.

Mr. Lewis Hammer, the assistant county agent, supplies the material for the junior page.

Miss Melanie Brown, our attractive secretary at Horticulture House, does most of the typing, proof reading and other tasks that help get our magazine to press on time.

We hope you have enjoyed meeting these people, and if there are any questions you want answered, please drop us a note. We can serve you best if we know your wants.

Wishing Everyone a Merry Christmas and  
a Happy New Year

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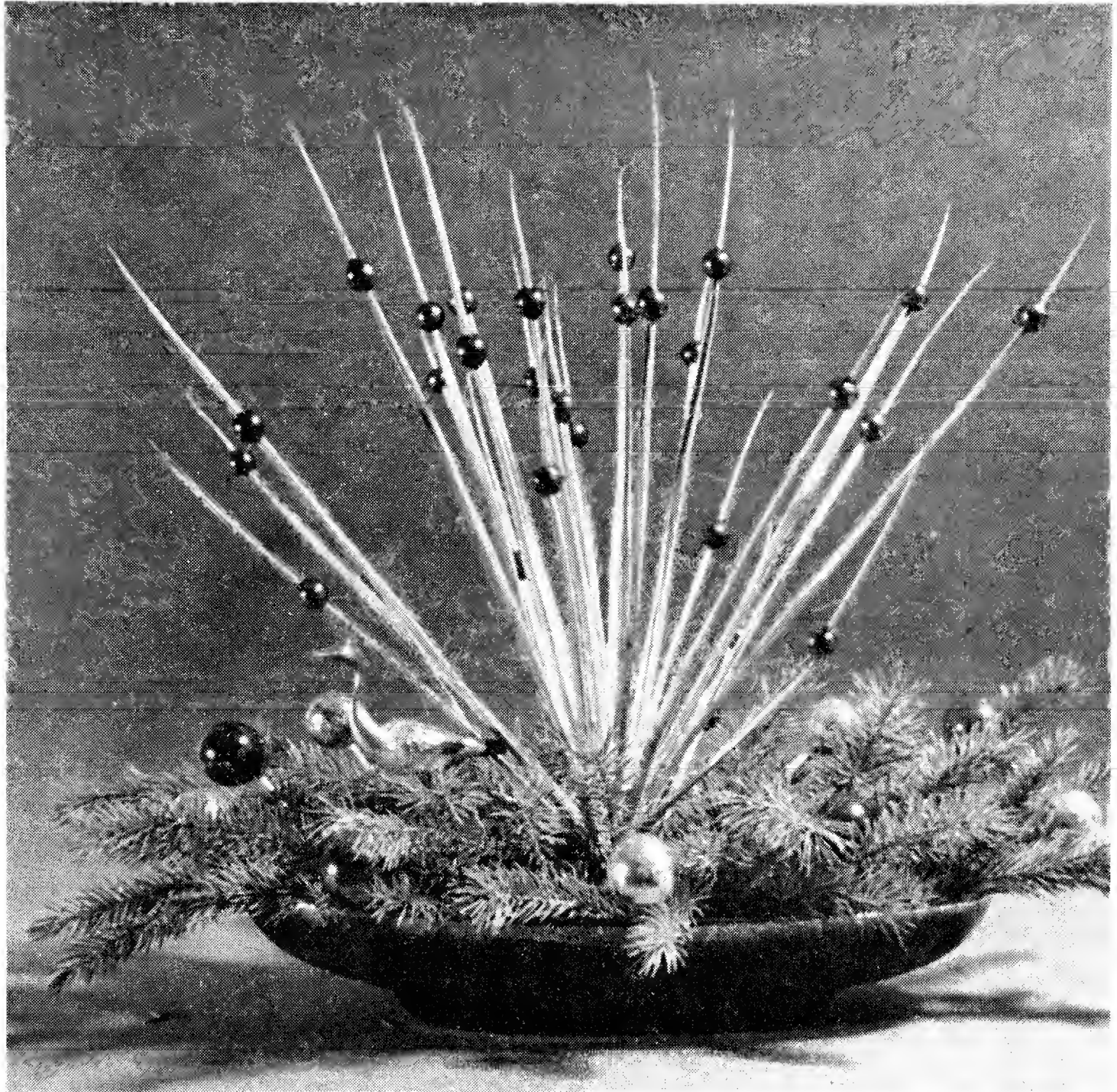
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*This arrangement was contributed by Mr. and Mrs. Ray Turnure.*

## CHRISTMAS ARRANGEMENT

THE beauty of our Christmas arrangement is expressed in the simplicity of the materials. A yucca plant, evergreen branchlets (these are blue spruce), plus a few small ornaments and beads were all that were used. A low black container flecked with gold is featured, but any low-type container of crystal, brass, copper or pottery can be used. The small Christmas tree ornaments come in many colors as do the beads which are on the yucca leaves. Or if you want to use left-over strings of small Christmas tree ornaments some of which may have been broken leaving a few odd and normally unusable ones, they can prove most effective in such a display.

Many variations and combinations can be created, of course, and the added joy of this arrangement is that it can be made early and keeps indefinitely when water is added. Why not make a few extra ones to give for the many pre-Christmas parties and following holidays?





## A RIVER EXPEDITION TO RAINBOW BRIDGE

By JOHN HOWIE

**D**EEP in every man's heart there is a vision of some faraway spot where the horizons are vast and the air is still, and where one can ponder his relationship to time and space. Following my own wilderness vision, I have long been attracted to the mesa and canyon country of the Colorado Plateau, and have felt compelled to visit as many lonely corners and spectacular scenes there as I could. One natural wonder which became more and more tempting to me was Rainbow Bridge, spanning a side-canyon of the Colorado River in southeastern Utah. It is accessible only from the river, or else over a fourteen-mile mule trail across Navajo Mountain, which is at the end of a primitive road through the Navajo Reservation. To reach Rainbow Bridge by the Colorado River, one must float ninety-

three miles from Hite, Utah, to the outlet of Bridge Canyon; and to return to civilization, it is another sixty-nine miles downstream to Lee's Ferry, Arizona.

Because I have never been a water or boating enthusiast, I made every effort to assure myself that this section of the Colorado was indeed the "old mill stream" described to me by friends and relations. I read some accounts of earlier expeditions, taken in wooden boats, and was encouraged to note that no one used the term *rapids* in describing the river between Cataract Canyon, which is above Hite, and Marble Canyon, which is below Lee's Ferry. Instead, every writer referred to the calm waters and the placid Glen Canyon. This summer, then, I resolved to follow the



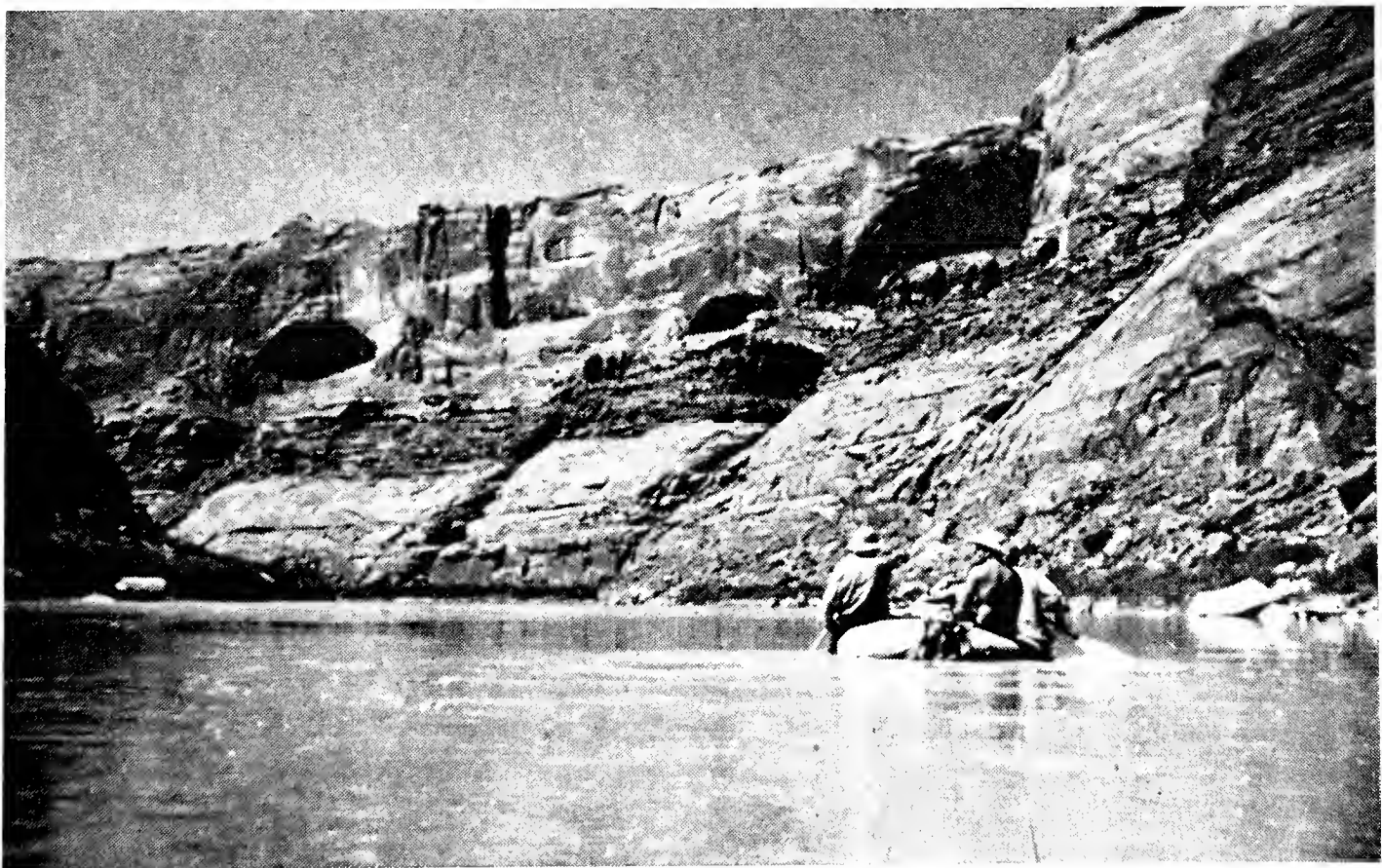
Colorado River through its hidden wonderland to Rainbow Bridge.

After purchasing a six-man pneumatic life-raft and a set of topographic maps of the river, I succeeded in persuading my brother and two other friends to join me in this adventure, and we set about assembling our equipment and planning for provisions. We already had sleeping bags with air mattresses and some compact cooking gear, and we bought life-jackets and waterproof bags to keep everything dry, including cameras and film. We decided to rely heavily on dehydrated foods for the sake of space, and to carry canned goods only for lunch, when we would want to do no cooking. Since we planned to spend nine full days before meeting my parents at Lee's Ferry, we put on board two cases of canned tomatoes and beans and nearly a hundred pounds of dehydrated foods when we embarked at Hite on August 25. Our friend who had driven us up to Hite remarked later that we looked barely afloat, and he was not enthusiastic

about our invitation to come with us.

The Colorado turned out to be at unusually low water, and we floated only seventeen miles the first day, stopping for lunch and making an early camp in the rain. This was the only rain of our trip, and it quickly passed over, rewarding us with a double rainbow. After this day, we ate our lunches *en route*, and until we reached the confluence of the San Juan River—half way through our course—we averaged twenty miles a day. To do this, however, we found it necessary to paddle down one still corridor after another, relieved only by occasional "rapids" of faster water, whose approaching roar we anticipated with excitement. On the fifth morning we met the lighter waters of the San Juan, which were a welcome sight because they increased our current enough so that we no longer had to paddle to make our rendezvous at Lee's Ferry.

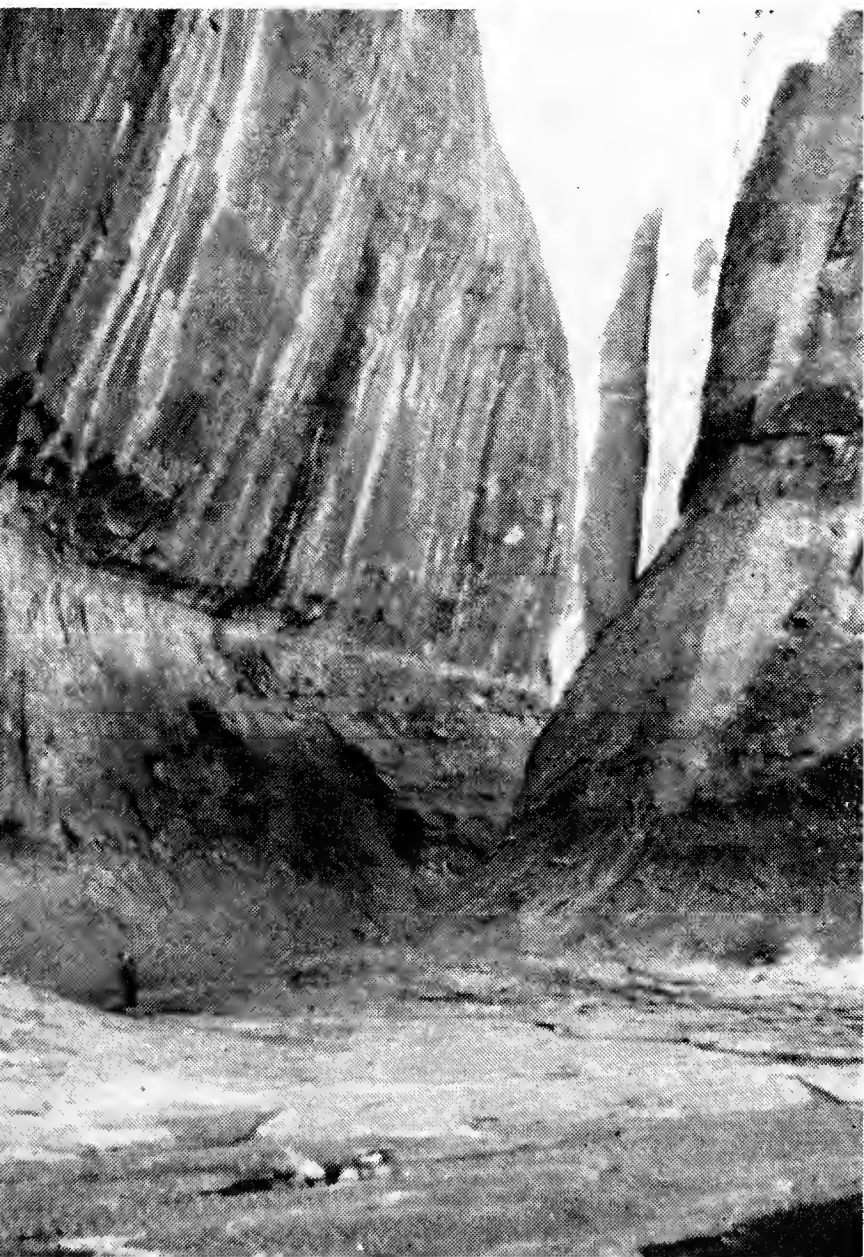
In the nine-mile stretch of river between the San Juan and Aztec Creek, which runs down from Bridge Can-



*Paddling downstream sixty-seven miles from Hite, Utah.*

yon, there are several fascinating side canyons winding their narrow passages through the sandstone walls along the Colorado. We spent a couple of delightful hours walking into Hidden Passage, named for its inconspicuous opening to the river. Its partly-dry stream bed is quite level, pocketed with clear pools full of small fish, and its close walls rise nearly vertically for several hundred feet, as they bend around a series of hairpin turns. Our way was finally blocked by a waterfall, under which we enjoyed a cooling shower. On the other side of the river is a box-canyon named Music Temple in 1871 by Charles Wesley Powell because of the reverberant acoustics of its auditorium-like enclosure. Here we ate our lunch and spent half of the afternoon relaxing in the luxuriant green growth of this damp, shady spot. After floating around three more bends in the Colorado, we came to the mouth of Aztec Creek,

*The Narrows of Bridge Canyon.*



and made camp on a sand bar where we planned to stay two nights while hiking to Rainbow Bridge and back the next day.

We started in the cool of the morning, carrying our lunches and "empty" canteens, for Aztec is fed by numerous cold springs seeping from the rock. We walked up Aztec Creek about three miles to The Narrows of Bridge Canyon, an opening much like the Hidden Passage, and then up Bridge Canyon about two miles to Rainbow Bridge. When we had passed The Narrows, we began to lose our shade as the sun rose higher overhead; and it was getting very hot hiking, when my brother rounded a corner and announced, "There's the bridge!" Far up the canyon we could see one end of it which looked like a flying buttress against the canyon wall. We hurried up to the bridge with renewed energy and found beneath it another spring, where we rested before walking further for other views. During the heat of the day we came back to this spring, contented pilgrims in the shadow of the largest natural bridge in the world—Rainbow Bridge.

One of the factors in my decision to undertake the pilgrimage to Rainbow Bridge this summer was the development of the Upper Colorado Storage Project, now pending in Congress. The present bill provides for a major dam to be built in Glen Canyon a few miles upstream from Lee's Ferry which would create a reservoir with a normal water level of 3700 feet above sea level. Such a reservoir would not only alter the navigational properties of the Colorado, but would inevitably attract the crowds and commerce which the lover of unspoiled wilderness is seeking to escape. Furthermore the elevation of the stream bed under Rainbow Bridge is just 3654 feet above sea level, which means that the proposed reservoir would

submerge fifty feet of the bridge's three-hundred-foot height.\* Such inundation is obviously not in keeping with the principles for which Rainbow Bridge was set aside in 1910 as a national monument; and this threat to the national park system has been neglected by public sentiment, compared with the well-publicized controversy over the proposed flooding of part of Dinosaur National Monument. The issue is the same: whether or not our national parks and monuments shall be legally inviolable by reclamation projects regardless of how practical or impractical these projects may be.

Ultimately, this issue becomes a question of personal values. People in the West want water, and there are not many things that people can

need more than water. It is understandable then, that they should want to do anything which will give them more water. But there are those who are not so dependent on the local water supply, and who are therefore able to take an interest in more abstract and esthetic values. These people want to preserve our natural heritage of wilderness beauty and want to enjoy primitive travel in unimproved country. All these desires are naturally selfish on the part of those who hold them, and every one must decide for himself what is most important. But first, every one should have the opportunity to visit a place, in its natural setting, like Rainbow Bridge.

\*See *National Parks Magazine*, April-June, 1955.

## SEASONAL SUGGESTIONS FOR DECEMBER

**I**F YOU have mulched all your plants that need it, if your tulip bulbs and other bulbs for early spring flowers are planted, and if all the other outside gardening chores are finished, this is a good time to relax and enjoy the spirit of Christmas.

By the way, are you helping *conservation* in your selection of Christmas trees and greens? Let's all buy trees that bear the Forest Service tags that show they were cut without doing damage to our forests. We still do not have adequate control to prevent many trees being stolen from areas that should not have been cut,

so let us not be party to such practices by purchasing such trees.

Check your hoses for leaks. If they need repairing do it now or set aside to do in idle moments this winter. Store them in a handy place in case we have a dry winter and in event the water board sees fit to give us a watering day for trees and shrubs.

Clean up shovels, hoes, and other tools. Remove rust with steel brush, emory cloth or steel wool. When this is done soak a rag in oil and rub it over tools so that they are thinly coated, this will prevent further rusting while they are in storage.



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## FOREST RECREATION

By R. W. ARMSTRONG

**B**EFORE the development of the automobile few people were able to visit the forests for pleasure or relaxation. Only the hardy sportsman or naturalist could penetrate the forest trails, pitch camp by a lake, or climb to the top of a mountain. But within the past 25 years the situation has changed. With 3 million miles of improved roads and nearly 60 million cars, travel for recreation has increased amazingly, for Americans like to see their great continent as conveniently and as inexpensively as possible. Since this movement is bound to develop at an ever increasing pace, intelligent planning for the future is urgently needed. National forests and parks had about 3,500,000 visitors in 1917 and in 1952 they had over 50,000,000. In 1910 America knew practically nothing about skiing. Shortly after World War II there were estimated to be over 3,000,000 ski enthusiasts. The total income from all forms of forest recreation amounts to about \$2,000,000,000 each year. However, forest recreation cannot be valued in terms of money. Vitality, health, and happiness of the American people are the only worthwhile measurements, for each person gets a different gift from the forest. To many it is a place to regain confidence, will power, and determination. For them it is a spiritual and moral rebirth. Others such as naturalists find it a laboratory and proving ground for their studies. Still others like to take their scenery at 60 miles an hour while the naturalist or camper with more energy and discrimination wants to live in intimate contact with the forest itself, taking the poison ivy and mosquitoes as part of the game—wilderness camping is for them. For those who are not quite so adventure-

some there is roadside camping and group camping in state parks and recreation areas. One thing must not be forgotten, forest recreation should be available at moderate cost.

There are several types of recreation areas: Superlative areas, primeval areas, wilderness areas, campsite areas, residence areas, outing areas, and roadside areas.

*Superlative areas* are exceptional for their scenic beauty which is so unusual that they are of national importance. Such places are Yellowstone, Grand Canyon, Sequoia, Carlsbad Caverns, Dinosaur Monument, Rocky Mtn. National Park.

*Primeval* or "wild nature areas" contain virgin forest unspoiled by the advent of civilization. They are helpful in understanding the many laws of forest growth, development, succession, and distribution. Both the Forest Service and the Parks Service are making provisions for reserving primeval areas. In the twenty major timber types of the U. S. over 50 areas have been set aside by the Park Service. Examples are Gothic, and Hurricane Canyon in Colorado.

*Wilderness areas* are large areas which have practically no permanent inhabitants or any of the modern means of transportation. Roads, settlements, and power lines are barred but trails and temporary shelters are permissible. The Forest and Park Service have both adopted a policy of reserving such areas from residential use and from penetration by roads. Most of the land involved, because of its inaccessibility, altitude, and slowness of forest growth would possess little value for production of timber. Such forests are essentially for the protection of land and water resources



*Roadside areas* which are strips along highways and water ways receive the brunt of public use.

*Campsite areas* have fireplaces, water, firewood, etc.

*Residence areas* are forests with private homes, hotels, resorts, etc.

*Outing areas* include state parks and local parks.

*National forests* are the people's forests and are for the American people's enjoyment. There are 152 national forests comprising some 181,293,329 acres and distributed over 40 states. Some of these are the Caribbean N.F. in Puerto Rico, the Ocala and Choclawhatchee in Florida, the Manistee and Hiawatha in Michigan, the Swannee in Illinois, the Chippewa in Minnesota, the Chequamegon in Wisconsin and the Arapahoe in Colorado. For variety, extent, and interest they are unequaled anywhere else in the world. From any part of the country some national forest is within a day's drive by automobile which means that opportunities for recreation are therefore both informal and inexpensive. Within these forests there are 137,000 miles of forest highways and over 150,000 miles of hiking and riding trails, hardly a mile being without some scenic view. There are also 70,000 miles of streams, and thousands of forest framed lakes. Picnic and campground facilities provided are sufficient to care for 240,000 people at one time. Some very popular areas have as many as 1,000,000 visitors in one year, others more remote hardly 200 a year. To take care of all these people there are over 3,800 campsites which have been specially selected and improved for the convenience and enjoyment of the picnickers and campers. The national forests also have over 13,000 summer homesites leased at a rate of from 15 to 25 dollars per year. Summer homes are erected by the lessees. These for-

ests are for use without charge. Your only ticket for admission is the solemn pledge:

1. I will not be careless with fire in the woods. I will drench my campfire before leaving it.

2. I will leave the forest camp in as neat and clean a condition as I would like to find it.

3. I will not mark, hack, or deface what nature gave me to enjoy.

4. I will not stray off the well-posted forest roads without maps, compass, or reliable guide.

There are 6 separate administrative agencies that manage recreational areas:

1. The Department of Interior administers the national parks and monuments which contain superlative areas, botanic reservations, wild animal reservations as well as areas of historical and geological interest.
2. The national forests as now administered are well adapted to the management of all types of recreational areas.
3. State parks and state forests are devoted especially to the recreational and other interests of the states in which they lie.
- 4 and 5. County and municipal parks are adapted for outings of local citizens and are in great demand.
6. Private holdings are adapted to the types of recreation which will yield a profit.

Already 11,000,000 acres have been withdrawn from timber use in national, state, and local parks. At least 13,000,000 acres of the remaining 34,000,000 consists of inaccessible forest land of low productivity which for a number of reasons should be set aside for recreational use. Such large withdrawals of lands for recreational use promises great future stimulation in the use of forests for these purposes. This greater use is based on five trends in our social and economic life.

1. Population increase to a point

of stability estimated at about 165,000,000.

2. Shorter working hours, with more time for leisure and recreation.

3. Rise in American standard of living with additional millions of workers seeking outdoor recreation.

4. Increase in transportation facilities.

5. Increased mechanization of our industrial life, with increased demand for means of easing nervous tension.

As you can see from the statistics throughout this article, the steady growth of population promises to create even greater recreational needs and at the same time will create pressure from private interests for the release of the above areas for commercial utilization. Let us hope the public will stay alert and fight all such efforts and will endeavor to keep inviolate our national and state parks and recreational areas.

## FIRST COLORADO CONSERVATION LIST

THE Conservation List, as here presented, is a first attempt to promote protection for our native plant life. As cities expand and population and visitors to our state increase in numbers, the danger of extermination of some of our more desirable native plants becomes of imminent concern. The list is intended to be more or less tentative. Suggestions for additions, deletions or corrections are invited by the committee.

### Colorado Conservation List

Do not pick, pull, dig or in any way destroy the following plants:

Blue columbine (*Aquilegia coerulea*)

Tulip gentian (*Eustoma russellianum*)

Wood lili (*Lilium phladelphicum*)

Fairy slipper (*Calypso bulbosa*)

Yellow lady's slipper (*Cypripedium calceolus*)

Parry's primrose (*Primula parryi*)

Fringed gentian (*Gentiana thermalis*)

Leather flower (*Clematis hirsutissima douglasi*)

Mountain clematis (*Clematis pseudo alpina*)

Glacier lily (*Erythronium grandiflorum*)

Red columbine (*Aquilegia elegantula*)

Prince's plume (*Stanleya pinnata*)

Pipsissewa (*Chimophila umbellata*)

Boykinia (*Saxifraga jamesi*)

Birdfoot violet (*Viola pedatifida*)

Wood nymph (*Pyrola (Moneses) uniflora*)

Dwarf laurel (*Kalmia polifolia*)

Dwarf cornel (*Cornus canadensis*)

Alpine columbine (*Aquilegia saximontana*)

Twinflower (*Linnaea borealis*)

### Policy

No native plant material, as listed on the Colorado Conservation List, even if grown on private property, shall be shown in competition. Educational exhibits of native plants on the Conservation List should be encouraged and promoted. These exhibits may take the form of individually labeled specimens in water, potted plants, dried specimens or pictures.

The policy, regarding display in flower shows of plants on the Conservation List, was presented and accepted by the delegates to the annual convention of the Colorado Federation of Garden Clubs at Durango, Colorado, September 15-16, 1955.

KATHRYN KALMBACH,  
Conservation Chairman.

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*The welcoming entrance to the garden of Mr. and Mrs. Ralph Rickenbaugh.*

## REPORT ON THE LOOK AND LEARN GARDEN TOURS

**F**OUR "Look and Learn" Tours were held in June, July, August, and September. We were most fortunate in having good weather and fine assistance from the many people who participated and as a result, a great deal of interest and appreciation of the visits was expressed.

We are deeply grateful to those who so generously exhibited their lovely gardens and we want to thank them for their splendid cooperation and spirit which made the tours such a success.

The following gardens were shown:

### **June, Denver**

- Mr. and Mrs. Calvin Seiler, 3400 South Ash
- Mr. and Mrs. George Hayden, 2711 Wilamette Lane
- Mr. and Mrs. E. A. Anderson, 3320 So. Bellaire Street
- Mr. and Mrs. Sanford Gregory, 33 Sunset Drive
- Mr. and Mrs. J. G. Holland, 31 Sunset Drive

- Dr. and Mrs. Robert Alway, 10 Churchill Drive
- Mr. and Mrs. Ralph T. Baird (a bonus garden) 770 Ivanhoe

### **July, Boulder**

- Mr. and Mrs. Frederick A. Rohrman, 1333 Cascade
- Mr. and Mrs. Gordon Alexander, 765 14th Street
- Mr. and Mrs. C. B. Coon, 513 Pearl Street
- Mr. and Mrs. Frank E. E. Germann, 1800 Sunset Blvd.
- Mr. and Mrs. Fred Shortt, 2000 Alpine
- Mr. and Mrs. Cal A. Briggs, 600 11th Street
- Mr. and Mrs. Frederic P. Storke, 1123 Baseline Road
- Mr. and Mrs. Wm. B. Pietenpol, 1290 Baseline Road
- Mr. and Mrs. Alden Megrew, 505 Baseline Road

### **August, Denver**

- Mr. and Mrs. Ralph Rickenbaugh, 600 S. University Blvd.
- Mr. and Mrs. Clyde Learned, 988 S. Williams Street
- Dr. and Mrs. R. M. MacDowell, 1030 East Yale Avenue



*Left—A pleasant walk-way through the garden of Dr. and Mrs. C. S. Blumel.*



*Right—Single vines cover an old silo that has been converted into a garage which is also at the Blumel's.*

Mrs. Clara Plumleigh, 2173 S. Marion Street

Dr. and Mrs. C. S. Blumel, 4501 S. Franklin Street

Mr. and Mrs. Lemoine Bechtold, 4201 S. University Blvd.

#### **September, Denver**

Mr. and Mrs. Robert Stovall, 160 Race Street

Mr. and Mrs. George Kenmore, 100 Dexter Street

Mr. and Mrs. Willett Moore, 875 South Adams

Mr. and Mrs. Arthur E. Johnson, 515 Race Street

Dr. and Mrs. James J. Waring, 2125 Hawthorne Place

Mr. and Mrs. Frederic H. Douglas, 745 South Jackson Street.

A special note of thanks to our experts and hostesses who gave so freely of their time and talents which helped tremendously in the smooth functioning of the events.

**EXPERTS:** Mr. George Amidon, Mr. Dick Armstrong, Mr. Stanley Brown, Mrs. Vella Hood Conrad, Mrs. Wm. H. Crisp, Mrs. C. Earl Davis, Mr. James Dixon, Mr. Patrick Gallavan, Mr. Henry Gestefeld,

Dr. A. A. Herman, Mrs. E. C. Horne, Mr. Wendell Keller, Mr. and Mrs. George W. Kelly, Mrs. John Newman, Mrs. Persis Owen, Mr. M. Walter Pesman, Mrs. J. V. Peterson, Mr. Earl Sinnamon, Mr. Mike Ulaski, Mrs. Ruth Wilmore, Mr. Kenny Wilmore.

**HOSTESSES:** Mrs. C. A. Almqvist, Mrs. George Argall, Mrs. Alexander Barbour, Mrs. D. Barcus, Miss Rose Baroch, Mrs. F. Brown, Mrs. Henry Butterfield, Mrs. R. G. Butts, Mrs. E. Cochrane, Mrs. B. D. Cook, Mrs. D. Davis, Mrs. Dryer, Mrs. Roscoe Flemming, Mrs. Cooper Hegner, Mrs. R. H. Hughes, Mrs. J. L. Janosky, Mrs. Clarence Jones, Mrs. Charles Kuerston, Mrs. R. L. Leamon, Mrs. Louis Leob, Mrs. Alonzo Lily, Mrs. H. L. Lindstrom, Mrs. Frank McLister, Miss Elizabeth McNary, Mrs. Le Roy McWhinney, Mrs. John MacKenzie, Mrs. Hudson Moore, Mrs. Russell Meyer, Mrs. Churchill Owen, Mrs. J. Kernan Weckbaugh, Miss Nancy Weckbaugh,



Mrs. John Welborn, Mrs. Harold Writer.

In Boulder the owners acted as both experts and hostesses which helped a great deal.

The task of setting up the tours was a tremendous one, as you might imagine, and one that would not have been possible without a diligent garden tour committee with Mrs. Robert Perry serving as chairman assisted by Mrs. Frank McLister, Mrs. James J. Waring, Mrs. Rose Hughes, Mrs.

Kernan Weckbaugh, Mrs. Alexander Barbour, and Mrs. John Newman.

Helping them with the telephoning were Mrs. Chester Cassell, Mrs. Robert McCurdy, and Mrs. William Vogt. The publicity, through courtesy of our newspapers and radio stations, was ably handled by Mrs. Henry McLister and James B. Stewart. Thanks to the efforts of all these good people the tours brought the association \$546 which was very deeply appreciated.

## A GARDEN VISITOR

By MAX BAUER

AS A visitor to four of our "Look and Learn" garden tours this last summer, I found that some flowers, which were quite popular fifteen or twenty-five years ago are now out of style. I do not remember seeing any *Aconitum* or *Monkshood* in any of its many varieties such as *A. Fischeri*, *A. napellus*, or *A. wilsoni*. It is one of our hardiest perennials blooming often till December and used for background plantings in half shady places.

Then what became of one of our most striking garden beauties, the giant *Eremurus* or Foxtail lily? And where are the *Helenium* (Helen's flower) such as *H. hoopessi*, *H. autumnale*, *H. Riverton Beauty* and *Riverton Gem*? *Digitalis* (Foxglove) has also gone out of style and one of the favorite flowers during the 1930's, *Anemone japonica*, is nowhere to be seen. *Cimicifuga racemosa* is in this category as well as *Eupatorium coelestinum* (Mist flower), *Boltonia latis-*

*quama* (False Starwork), *Didiscus coruleus* (Lace flower), *Lychnis chalcedonica* (Jerusalem Cross), *Baptisia* (False Indigo) *Camassia* (Camas lily), *Amsonia tabernaemontana* (Milkweed), *Penstemon* (Beard Tongue) in the varieties of *P. glaber*, *P. utahensis*, *P. sensation*, and *P. heterophyllus*. *Scabiosa caucasica*, *Baleriana officinalis*, and *Erigeron* must also be added to the growing list of "ex-patriots."

Even among the annuals used as bedding plants I found a scarcity of old favorites. Here are just a few of them: *Heliotrope*, *Phlox drummondii*, *Lantana*, *Verbena venosa*, *Salvia farinacria*, stocks, *mignonette*, *Godetia*, *Gomphrena glovosa*, *Nigella*, *Vinca rosa*, *Salpiglossis*. And so it goes—popular whim in flower choice fluctuating as much as styles in clothes. Perhaps next summer will bring a few of these back in favor for they add a pleasant nostalgic note that seems fitting for a garden.

## MARSHALL NURSERIES

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the  
Garden  
Tour  
Album



*An attractive use of evergreens in the garden of Mr. and Mrs. Willett Moore.*



*A small figurine forms a central point of interest in the rose garden of Mr. and Mrs. Robert Stovall.*



*A pleasant back view in the garden of the Lemoine Bechtolds.*





*A charming patio for hot summer days graces the home of Mr. and Mrs. Arthur E. Johnson.*



*Mr. and Mrs. Ralph Rickenbaugh's handsome yet practical patio with barbecue pit.*



*A lovely pool framed with an interesting background planting adds to the patio of Mr. and Mrs. Eric Douglas.*

## A MOST UNUSUAL CHRISTMAS TREE

**O**PPPOSITE is "the" Christmas tree of Mr. and Mrs. Gano Senter. The "the" is in quotes because this tree is actually a composite of about 100 small trees with 50 to 75 extra limbs to fill in any open spots that whimsical Mother Nature left unfilled. These trees plus the extra branches are firmly attached by a hired carpenter who creates as symmetrical and as sturdy a tree as possible for the 4,000 and some ornaments and 700 colored lights that bedeck this "tree." It reaches from the floor to the ceiling and when fully decorated it is estimated to weigh about 700 pounds so it must be carefully put together to begin with in order to hold up.

Unfortunately, a black and white picture, good as this one is, cannot do justice to this solid mass of glittering, priceless ornaments from all over the world. The color and sparkle made particularly bright from a play of spotlights on the tree with a background of organ music must be seen and heard to fully appreciate the scene.

Mrs. Senter trims the tree herself which often means a fourteen to sixteen hour day for seven days. Underneath the tree, after the decorating is finished, a silver lamé cloth is laid where most of us normally use a sheet. Flanking the tree on the floor is a 200 piece miniature village. Many of the decorations are gifts from friends and well-wishers. Included in this category were some gifts from a group of maharajas from India who were in Colorado studying engineering. Hearing about the tree, they dropped by to see it along with 10,000 other visitors between Christmas evening and January 3, the length of time the tree is shown. Weeks later, Mr. and Mrs. Senter received in the mail some intricately hand-carved ivory ornaments from the princes who had so enjoyed Mr. and Mrs. Senter's display.

Other unusual ornaments include a tiny harp whose strings are minute glass vials of perfume, giant Swedish snowflakes flecked with colored stones, Moses-in-the-bullrushes, and a miniature organ that plays.

Children especially enjoy visiting this famous tree and the Senters cater to them. Most of their private showings are for orphans, Scout groups and crippled children and are followed by parties in the rumpus room. Mrs. Senter even takes care to hang the ornaments that seem to appeal the most to children, in the same spots each year.

Once a little boy was quite upset when he returned the next year and couldn't find his favorite ornament, the littlest angel. Even though Mr. Senter does not help in the actual trimming of the tree, he does watch carefully to help cope with just such emergencies. He found the littlest angel for the youngster and all was well.

One child couldn't be found at the end of the fifteen minutes allotted to each group of 40 that goes through at a time. The father searched frantically. Finally the boy was found starry-eyed in one corner of the children's row where he was seeing the show for the third time.

These are just a few of the heartwarming stories that occur each yuletide when the Senters display their unusual tree for the pleasure it gives to others.

*Photo furnished by Mrs. Gano Senter.*







## BUTTON GARDENS

By ALICE QUINN

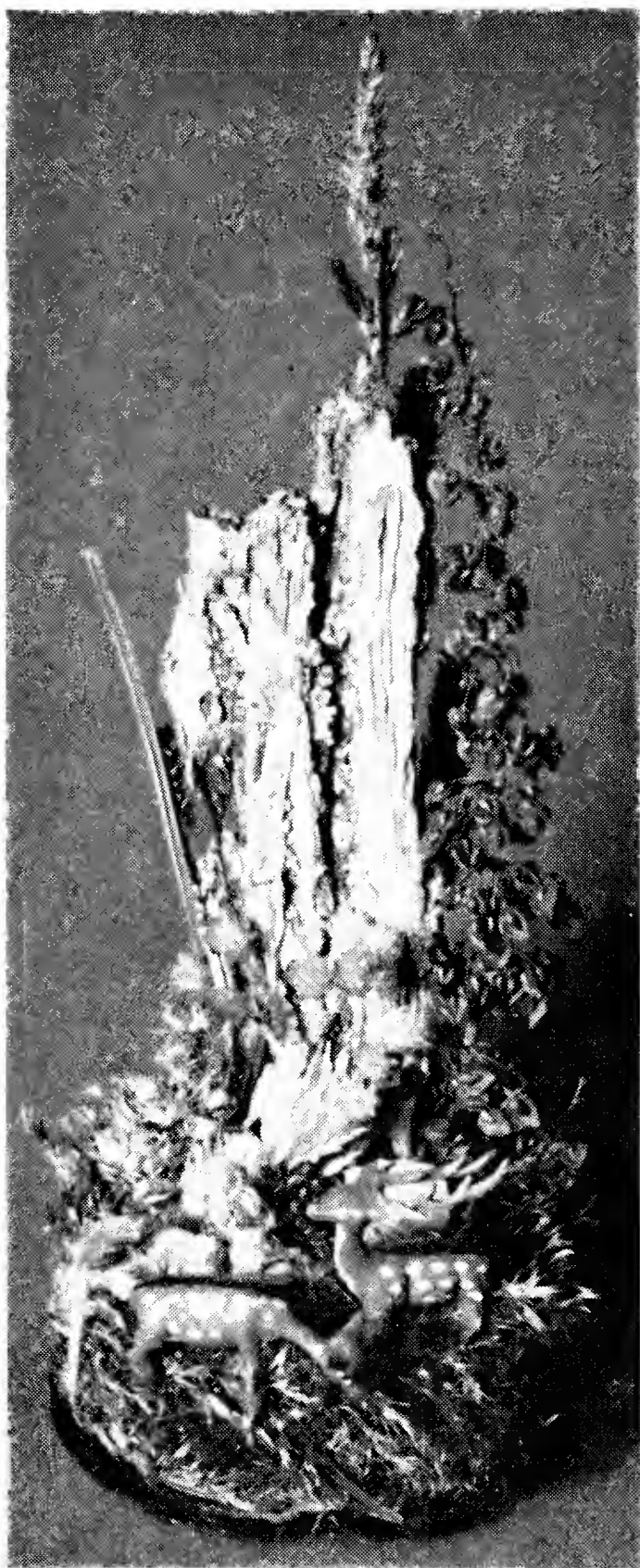
**B**UTTON, button, who's got the button?" You had better hide your button box or somebody will make gardens out of your choice ones. Buttons adapted to button gardens, however, are usually of no value to collectors.

What is a button garden? It is a miniature garden on a button, a diminutive arrangement, a scene recalling a vacation, or an opportunity to let the imagination play with Nature's materials. It is a hobby for all ages and both sexes. It is something to ease the boredom of the convalescent, or it is a diversion for shut-ins, or possibly it is an enjoyable substitute garden for one no longer able to carry on vigorous garden activities. It is therapy for the emotionally distressed because you can't concentrate on the making of a button garden and your troubles, be they real or imaginary, all at the same time. And finally, it is just plain fascinating to all those who delight in small arrangements.

Button gardens may be made for all occasions. They are perfect for place cards or favors, for the sick, as inexpensive gifts for friends, and for charming conversational pieces to take to welcome a new neighbor.

What are they made of? You will find a wealth of material in your garden, along the roadside, in the mountains, or you can buy much of it from florists or hobby shops. They may be made entirely of dried materials or you may add small cactuses or succulents. A drop of water a day will keep plants used on a button garden flourishing.

You will need small flowers, seeds, leaves, twigs, lichens, mosses, and small cones, shells, stones, bark, broken mirrors, and small figurines. Statice, strawflowers (the tiny ones), dried

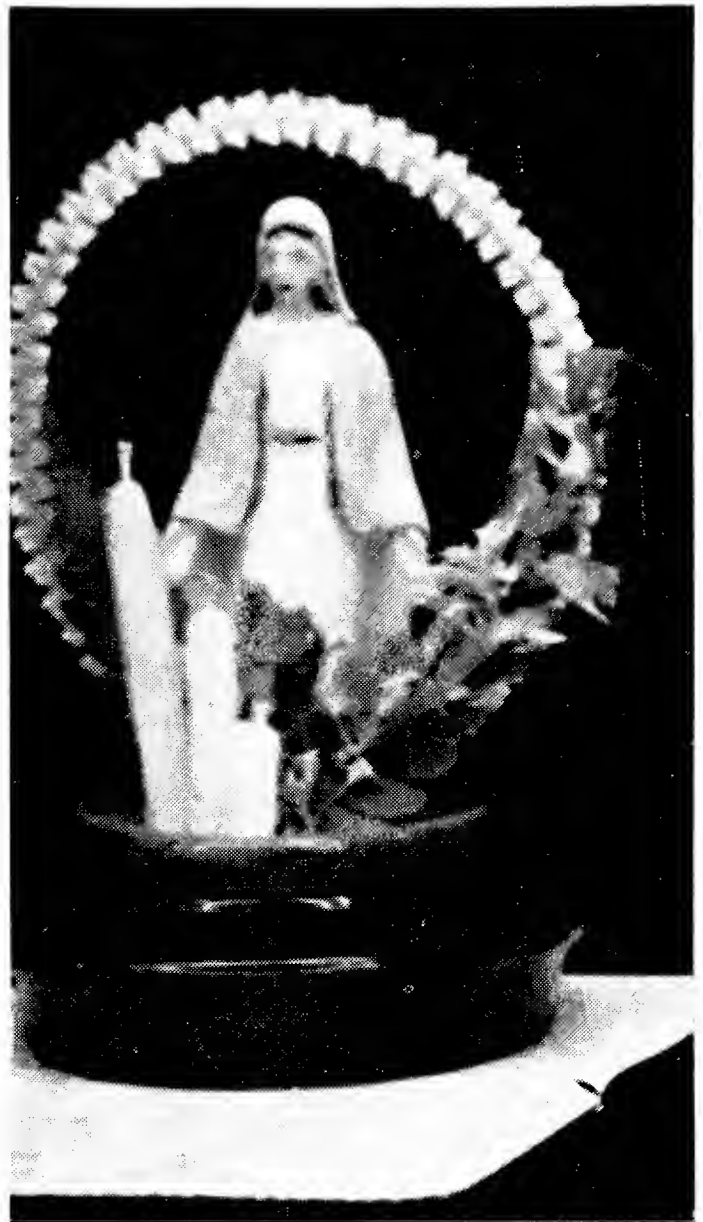


grasses, alder cones, achillea, celosia (used in small tufts), goldenrod, and dock are all useful. For small seeds and seed pods try petunia, helianthemum, and alyssum saxatile seed vessels (which are miniatures of the generally known lunaria, also called honesty or money plant). A partly opened milkweed pod will serve as a

back-drop and as a doorway for a small figurine. Small rocks may be used in mountain scenes. Pieces of broken mirrors make ponds and lakes. Sand may be colored in "Rit" and used in many scenes. Bits of mica make rivers and waterfalls, and tiny smooth stones or seeds (such as hollyhock) make stepping stones or walled gardens. Bark may be used as a background. Small, inexpensive figurines, people, animals, birds, houses, bridges, pagodas, sampans, etc., may be purchased or you may be one of those talented persons who can make ceramic centers of interest.

Having assembled these materials, you will, of course, need a button. The size of the button determines the size of the scene. A button about 1½ inches in diameter is a good size. To build your button garden you will also need a little equipment. This must include waterproof glue such as Duco Cement (waterproof glue is a necessity if you plan to water your garden), some florist's or modeling clay, tweezers, toothpicks for applying the glue, small stones to hold materials in place while drying, and a pair of sharp scissors to cut stems and flowers to size.

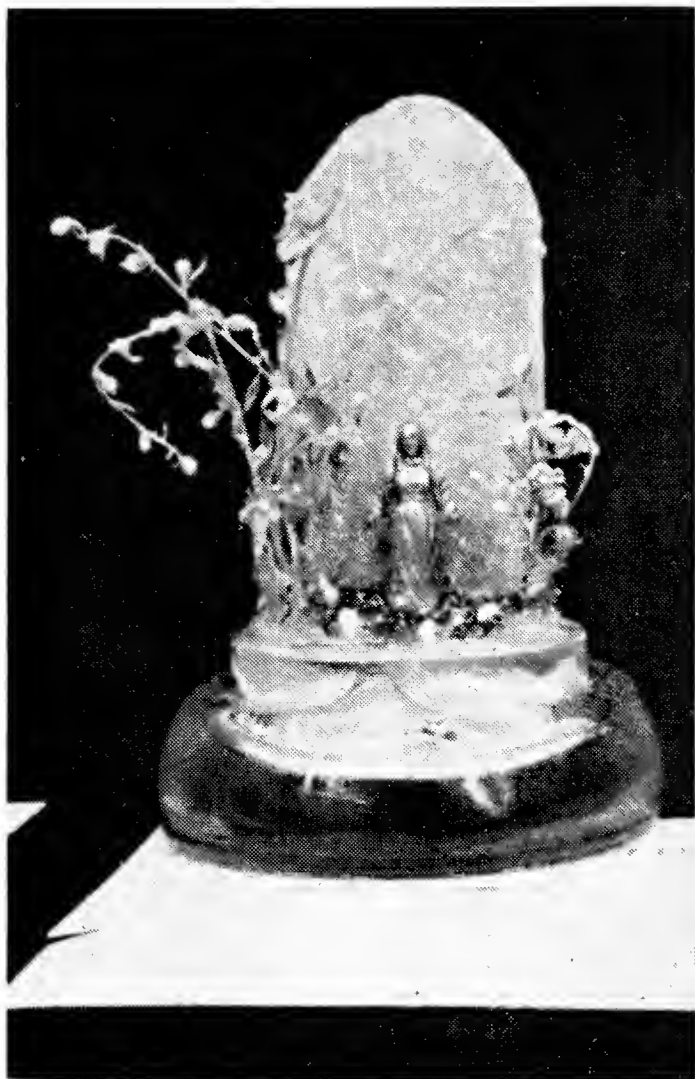
Now we are ready to begin. It is best to have a mental picture of what you want to depict before you start, but if you are unable to visualize your garden, construct it first with clay so that you can rearrange it to your satisfaction. Actually, you can fasten it in clay permanently if you wish, but you must then cover the clay with sand or moss so that it will not show. It is a good idea to start with a back-drop, perhaps a tall tree, a pretty shell, or a piece of bark. Keep your garden in scale as you would for an arrangement. Smear a bit of glue on the base of each item and place it carefully on the button. You may need the aid of tweezers. A little



modeling clay with the glue will help anchor larger pieces. If you are teaching convalescents or children to make these little gardens, decide on a very simple scene, otherwise the student may become too tired and lose interest before the garden is finished. More details may be added as health and technique improve.

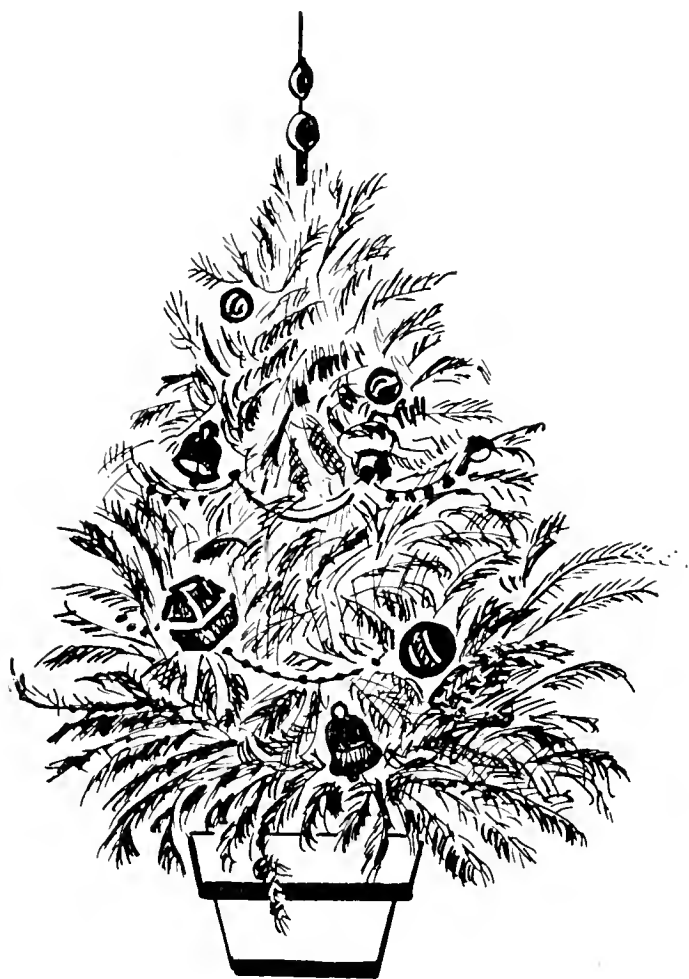
I first became interested in button gardens through Mrs. Florence Casebolt of California who has made thousands of them. She first developed this delightful hobby through her love for tiny flowers and other miniature things, and through her interest in making a "charm string" of buttons. It was her skill in creating these little gardens and her love for them that interested me in trying my hand. I hope this article will similarly inspire you, and that you too will find joy in making button gardens.

*Photos of Button Gardens by Mr. Ray Turnure using an Alpha 5 camera. All pictures are approximately life size.*



## MAKE YOUR OWN TREE

Are you tired of searching the lots for a nice small tree? Let's make one. Here's how: First shape a cone of fine chicken wire a little shorter than the desired height of the tree. Insert six to ten inch long branches, working to keep them at a slightly upward angle and the "tree" compact. After you have covered the wire cone step back and look at your tree. Snip off any branches that are too long and fill in any spots that need it. Decorate with small ornaments in keeping with the scale of the tree. Anchor in a red enameled flower pot that has been filled with wet sand. The weight of the pot will keep the little tree from toppling. Stout small sticks (doweling is good) may be woven down through the chicken wire and inserted in the sand to fasten the tree to its base.





## ARE WE GETTING THE BEST OUT OF OUR INDOOR GARDENING?

By MORAS L. SHUBERT

SO OFTEN, about this time of the year, we come to the sad realization that our indoor gardens, whether they be only a pot of geraniums or many windows full of plants, have not come up to our hopes and expectations. Perhaps we failed to follow the advice of Helen Marsh Zeiner in last September's GREEN THUMB to get our plants indoors before they were set back by the chill of autumn nights. Or we may have fallen into a rut and have only the common-place old kinds that are beginning to bore us just a little.

What can we do right now to improve the situation? As I look at my own plants, I wonder why that ugly jade plant (maybe you call it rubber plant) and that sickly peperomia are occupying about eighteen inches of valuable space. Out they go! What are you going to discard?

Now let's visit our neighborhood plant shop and see what new species or varieties we can find that will renew our interest in this whole indoor gardening project. We might also call on a friend and see what we can get by begging or trading. We are always hearing how a new hat gives a lady a lift, and I am sure that any plant grower gets the same feeling from acquiring new kinds of plants to grow.

Now when we get a new plant, what kind of a home are we going to provide for it? Or better yet, what kind of plant is suited to the spot we have for it?

For top performance we need to grow each species in the temperature and light environment best suited to it. We know how a philodendron will sunburn in a sunny window, how a geranium will get spindly in a shady

spot, and we know our African violets are rather choosy about temperature. But perhaps we need to study the many extensive lists in books like Montague Free's "All About House Plants" and many others in the library at Horticulture House in order to find what plants are suited to certain environments and what the requirements are for the many different species. Don't forget that in our brilliant, high altitude sunshine we can count on more heat in south and west windows and more light in almost any window than is considered normal in the coastal states where most reference books have been written. For example, I have seen a "sun-loving" variegated coleus growing beautifully where there was no tree or structure to shade it in a north window!

After making sure we know what temperature and light we are going to provide for each kind of plant, what are we going to grow it in, water, "garden loam," sand, potting mixture, sphagnum? I am becoming increasingly convinced that water and so-called garden loam are the poorest materials to use for most indoor plants. Many plants will, of course, make good growth in water if supplied with mineral fertilizer periodically, but unless they are provided with a decorative support they often lop over and develop an uncared-for look. And too often our garden soils contain too much clay, and set like concrete after months in a flower pot. Most species will do best in a light, loose mixture of sand that is not too fine, peat, and compost in about equal portions. For some, I like to use vermiculite and peat in about a three to one mixture. I have had good success

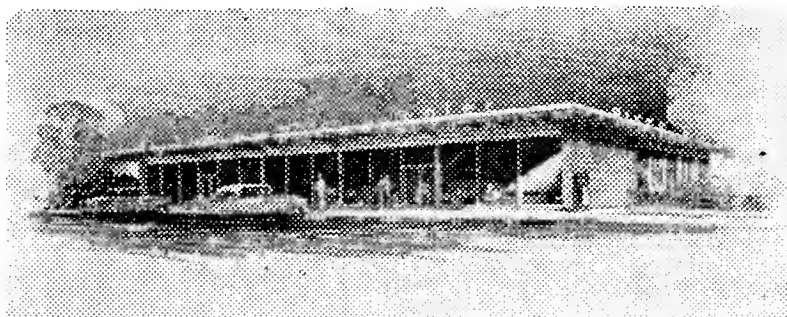
with sphagnum also, having had some plants growing in it for several years. Incidentally, a recent gardening magazine of national distribution, featured sphagnum as a potting medium but cautioned that it should be well-covered with coarse gravel to prevent growth of algae on its surface. As yet, I have had no gravel mulch and have had no algae troubles.

The best principle to keep in mind is that plants produce many roots when they are making good growth, and those roots must have air, moisture and space to grow in, so for all plants, except very slow-growing ones, avoid soils containing clay.

Many people go to too much trouble with regard to the use of mineral fertilizers, or else ignore this important factor. The simplest rule to follow is to give plants making good new growth regular fertilizer treatments and give those that are

growing slowly or are more or less dormant only water, and that sparingly. I have found that a weekly schedule is easiest to remember and follow, so I use a well-known soluble fertilizer the same day each week, diluting it to one-half the strength recommended for two-week intervals. Then at the regular watering time, I water the plants that have made good growth during the previous week with this solution and skip the others.

Regarding water supply to plants, I am sure that improper watering has accounted for the majority of problems that have been brought to my attention. Why is it that people will forget that their plants are living things which require a "drink" regularly, or else go to the other extreme and drown them? We must keep in mind that we, ourselves, eat more and drink more when we work hard. Therefore, we can expect our plants



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to need water regularly and more on bright sunny days than during cool cloudy ones when the "work program" is slowed down. The best rule for most plants is to give them enough water each morning to moisten the soil thoroughly, but only enough so that the soil will be rather dry by the next morning. Only experience with each plant in each place will tell us how much water to use, but if we are observant, we will quickly learn this.

If a plant seems to be wilted, always check to be sure it needs water before watering it, as leaves may droop from too much water!

Let's apply these principles and always keep in mind that our plants are as alive and as much in need of regular care as are any of our animal pets.

Yes, they even need a bath as much as do our canine members of the household! The smooth-leaved plants should get a frequent sponging with a cloth moistened in dishwashing detergent to keep the leaves clean and bright and to keep the stomates (pores) open. The hairy-leaved kinds can be cleaned with the dusting attachment of the tank-type vacuum cleaner. Good sanitation will also cut down on pest and disease troubles.

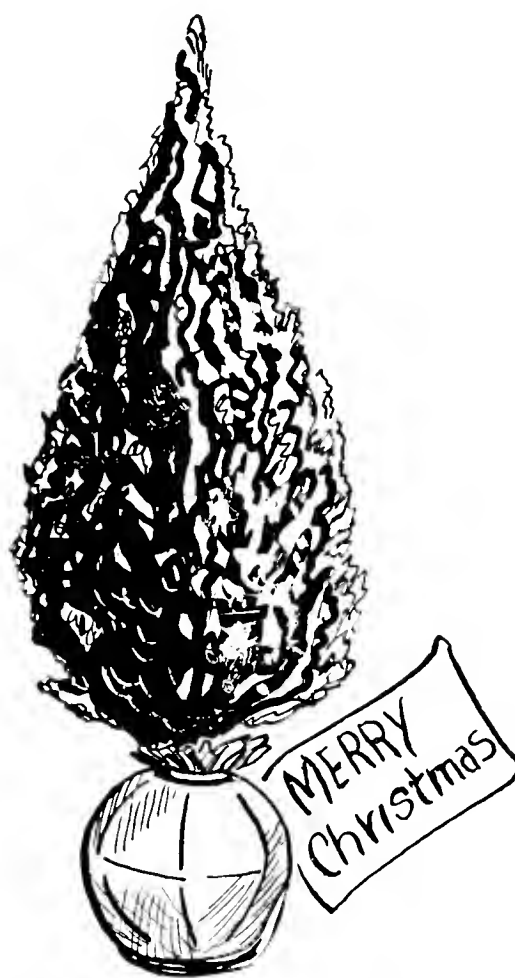
As Christmas approaches, we think again of the Poinsettia, a house plant especially appropriate at this season. Do you remember that your December, 1951, GREEN THUMB has the information on how to care for it? If you can't find your copy, telephone Horticulture House.

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## A LIVING CHRISTMAS TREE

How about a living Christmas tree this year? One that can be planted in your garden after the Big Day. Our local nurseries are offering a variety of sizes and kinds, including such lovelies as Pinion Pine and our own beautiful Colorado Blue Spruce. They are usually priced by the foot. A word of caution: do not keep these balled, living trees in the warmth of your home more than a few days or they will be stimulated to grow. They are dormant at this season. That lovely Spruce, over in the corner of your garden, in years to come, will remind you of the Christmas of '55—"you remember, the year Susie was the baby."

Drawings by Pauline Roberts Steele



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MERRY CHRISTMAS and A HAPPY NEW YEAR

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## IT'S FUN TO BE DIFFERENT

By HELEN MARSH ZEINER

**W**HEN you begin to be tired of all the usual house plants, it's fun to be different with plants grown from commonplace materials from the kitchen. Of course you will immediately think of the sweet potato vine, but this is only one of several interesting possibilities. Most of these plants will be short lived, but a few will last for years.

Sweet potatoes or yams make very attractive vines for variety among your house plants. Select a firm, unblemished sweet potato which shows signs of life (buds or "whiskers"), as some are treated to prevent growth in storage and will not sprout. Place the sweet potato with the tapered end down in a container such as a jar or narrow-necked vase. It should be about half in and half out of the container. Fill the container with water until it just touches the base of the sweet potato. It is advisable to add a lump of charcoal to the water. Be sure to keep the water against the base of the potato. As shoots appear, keep the tips pinched out to produce a bushy plant. There is no need to have two or three scraggly shoots when a little pruning will produce an attractive well-filled-out plant. Give your vine some sun to prevent yellow, dropping leaves.

Most of us at some time in our lives, perhaps in elementary school, have made or seen "carrot hanging baskets." Select a large carrot and cut off the tip, leaving a piece three or four inches long. Hollow this out to make a shell with the stem end of the carrot at the base. Attach strings for hanging the basket to the cut end. Fill the center with water (which must be kept replenished) and hang where it gets some sun. Leaves will develop from what is now the base

of the basket and make a lovely "fernery."

Or slice a carrot off at least an inch and preferably two or three inches from the top and stand the slice in water or in pebbles and water, with the water level a little below the leafy part. You will soon have an attractive upright ferny plant. Almost any root vegetable can be treated in this way. Beets make very interesting plants, as do parsnips and turnips. The foliage of any of these may be used to advantage in flower arrangements, as well as adding a novel touch to the window garden. Children especially seem to enjoy watching everyday vegetables turn into plant Cinderellas.

Avocado seeds can be planted flat side down in sandy soil or sprouted in water and then planted, and will make interesting long-lived plants. They are slow to germinate—it will probably take your seed two months to show signs of life. Soaking the seed in water and removing the outer covering may speed up the process.

Most attractive plants can be grown in the home from the seeds from your morning grapefruit. These are best started in late winter. For an attractive centerpiece, plant a number of grapefruit seeds about an inch apart in a shallow copper bowl—the shiny leaves of the seedlings together with the copper is most pleasing. Orange and lemon seeds can also be planted in this way. Any of these citrus plants can be kept for a long period of time, but they are not likely to reward you with fruit!

Squash and melon seeds can be planted in soil and will make novel vines for variety.

For an interesting and really attractive foliage plant, try growing a



pineapple. When fresh pineapples are in season, cut off the top with its crown of leaves and pot in sand until rooted, then it should be transferred to a pot with plenty of good drainage in the bottom and fairly light potting soil. Give your pineapple plenty of light and moisture and you will have a novel foliage plant which will last indefinitely.

If you have small children, try filling an egg shell with moist cotton and scattering a few radish or other small seeds on it. These may be suspended as hanging baskets. Obviously these are gardens of short duration, but so is the young child's interest span, and it is a way for him to see the miracle of the sprouting seed.

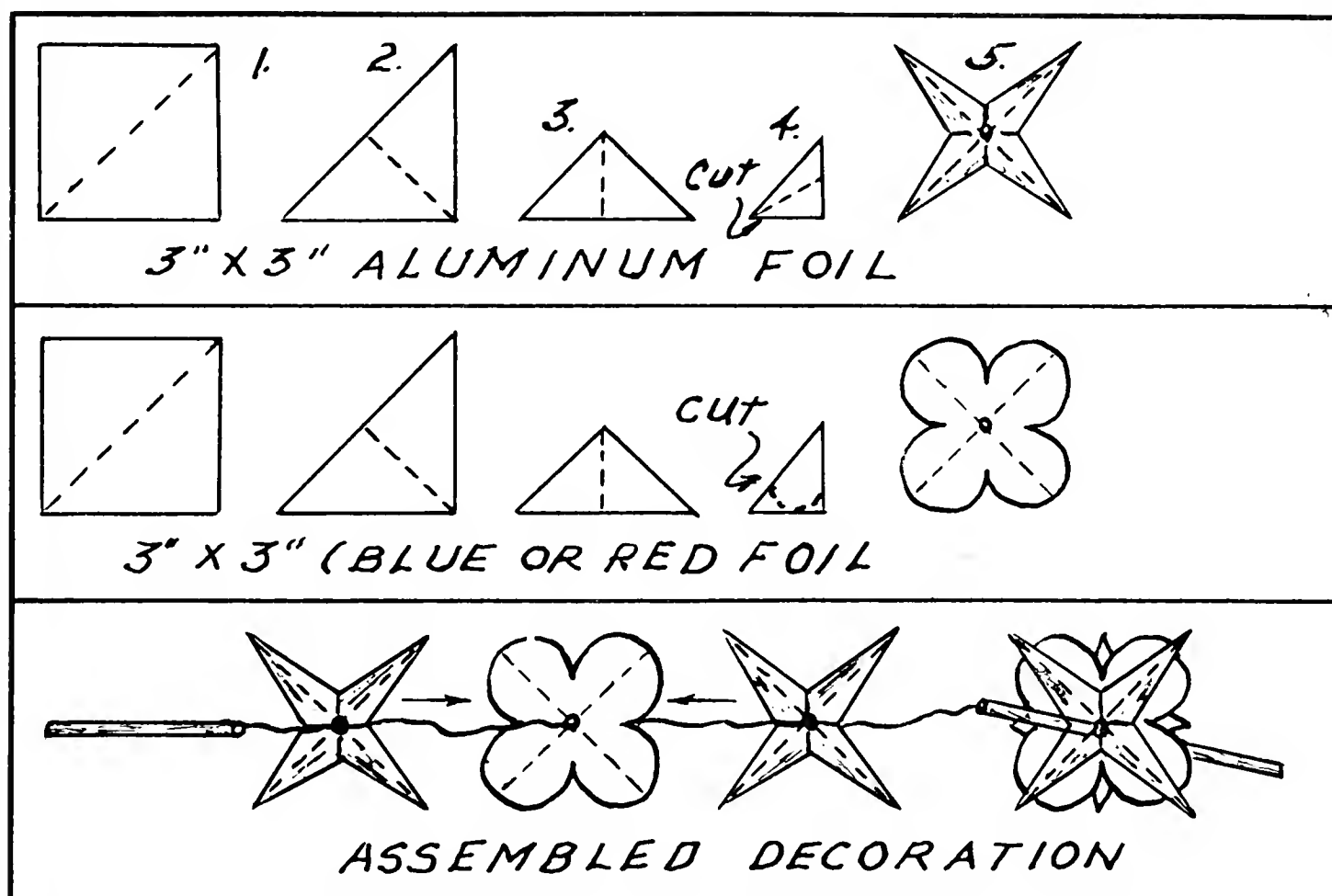
## JUNIOR PAGE

By LEW HAMMER

### Designs for Christmas

NOW when our thoughts are centered on Donner and Blitzen, candy and presents, it is time to have fun making our own Christmas decorations.

soap suds snow. This snow is easy to clean up if a splatter goes astray. A damp cloth is all you need for wiping away the misplaced suds. Place some soap flakes and a tiny bit of warm water in a deep bowl and just



Chain Decoration: All you need is some sheets of colored foil and a handful of colored drinking straws. Cut the foil and string it according to the above illustrations:

Soap Suds Snow: If you really want to have fun make a batch of

whip it up with an egg beater or electric mixer. Whip it until it is "dry" or much like very thick cream. Now the fun begins. Trace designs on glass with a sliver of soap and fill in the pattern, or heap it on the Christmas tree branches with a spoon. Remember

ber that snow fits anywhere at Christmas. To make it look real, pile on two or three fluffy coats. Add sequins or sparkly material from the dime store for that finishing touch.

**Scouring Powder Paste:** A paste of scouring powder can be spread on a window or glass door. Designs can be drawn with a wet finger after it has dried. Here again a design can be traced onto the window with a splinter of soap and the pattern filled in with the paste.

**Christmas Mobile:** Make a Christmas mobile using colored drinking straws and several sizes of colored Christmas tree ornaments. Use a tree top ornament for the top, tie the ornaments in the ends of the straw and then balance it on your finger to determine where to tie the thread.

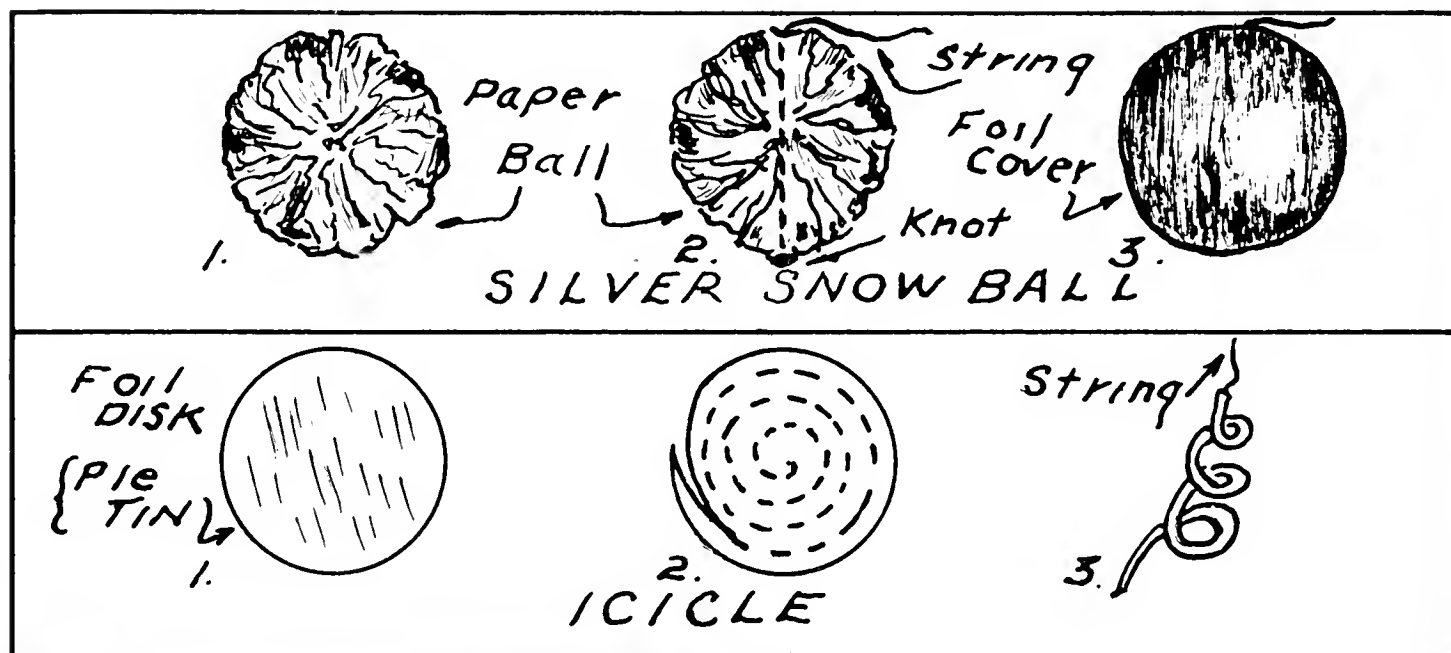
Try hanging colorful cookies or small presents in plastic bags on your tree.

**Outdoor Decorations:** If home has a Christmas atmosphere indoors, why not boost the spirit of your guests as

they enter the yard? Lights, of course, are wonderful at night but do not show at all in the daytime. The lamp post or fence is the place to start decorating, the trees and shrubs are next in line, but remember inside decorations do not stand up well outdoors. Decorations can be made from aluminum foil, used aluminum containers, such as pie plates, and tin can tops and bottoms. Here are a couple of ideas, but use your own imagination and there will be no limit to the number of good decorations you can make.

To finish off the entrance, it might be well to start with putting a decorated box by the door. The mailman will appreciate this help in distributing his heavy load of Christmas mail. Also, it would be nice if the door itself were decorated. One very attractive way is to cover the door to make it look like a wrapped package.

Now that you've started, don't stop, have fun and make this the prettiest Christmas yet.



A potted evergreen tree from a local nursery may be decorated and presented to Father as a gift. Not only is it very attractive, but after the holidays it can be planted in the yard.

## A CHRISTMAS TREE FOR THE BIRDS

**I**NSTEAD of discarding that cut Christmas tree after the holidays, use it for a bird feeding station. First, strip off the lower limbs to prevent the neighbor's cat from hiding there and catching a bird dinner. We are assuming that you have a fairly large tree. Anchor it in an open area, preferably where it can be viewed from one of your windows. Now, let's trim the tree. Tie beef suet (it should be number one item on the birds' winter menu for this area) in one and two pound chunks over the limbs. And if you would like to be a little fancy, finely grind one part suet (it should be warm—room temperature is good) and mix with two parts wild bird seed mixture (garden shops and seed stores carry this). Those salted nuts that have gone stale (the birds won't mind) may be included in this seed mixture. Just rinse off salt, let dry,

and chop finely. Keep mixture warm, but do not cook, pour in coconut shells and pack firmly. These are quite decorative as well as practical for hanging up for the birds. However, in lieu of the coconut shells a small wooden tray or box may be used.

Avoid, if possible, the use of a metal container. Remember how your fingers stick to metal in freezing weather. Birds' feet and eyes are likely to be injured by coming in contact with metal during freezing temperatures. There was a reason, back on the farm, for that old pump handle being wooden. To make the tree gay and festive, string popcorn and dried fruit on the tree. Stick sunflower seed over the surface of some of the chunks of suet. Mr. Chickadee's heart will be especially gladdened with such a find.

PAULINE ROBERTS STEELE.

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## WINTERIZING YOUR TREES

**F**EW winters pass without storms causing at least some damage to trees and shrubs. The severity of winter weather is unpredictable; the only safe course to follow is that of anticipating the worst and giving plants the best protection possible. Even this may not eliminate storm damage entirely, but it will hold it to a minimum.

Each large, well-located tree enhances the beauty of the home grounds and increases the value of the property. Replacement with one of equal size and beauty is impossible. Hence, fine trees should be given first consideration in a winter-protection program.

Inspection should be made for narrow, v-shaped branch crotches. These are structurally weak; under the stresses imposed by storms, the branches are likely to split at the fork. Protection consists of the installation of tree-rods and cables; often such support is the difference between loss and preservation of a fine shade tree. Slight splits may have occurred during the summer at some of the crotches; these should be treated immediately to prevent further damage. Unduly long drooping branches may need pruning or cable support to make them less susceptible to storm damage. All dead wood should be removed to

improve the tree's health and appearance, and to eliminate this hazard to life and property.

Evergreen shrubs should be watered deeply. This tends to prevent desiccation of the foliage by dry winter winds. Windbreaks composed of burlap or straw matting supported by stout stakes are of similar benefit. Mulches are often helpful in that they retard evaporation of moisture and stabilize soil temperature. And don't forget the possibility of mice and rabbits chewing the bark of young trees.

This can be prevented by enclosing the trunk in a collar of hardware cloth or ordinary window screen. The screen should be attached to stakes that hold it several inches from the trunk; it should extend from slightly below ground, to prevent mice digging underneath, to a height of two or more feet.

—From *Shade Tree Digest*, Courtesy of Swingle Tree Service.

## FOR YOUR DOOR

Make a small flat tree for your front door by using a plywood form (see drawing) covered with hardware cloth. The plywood base may be enameled red. This form may be reused each Christmas. Short lengths of evergreens—Spruce is very good—are inserted in the wire. Work for a compact effect. Tie small metal bells over the tree. Be sure to get the kind that tinkle so that a merry greeting will ring out each time the door is opened.

The Bible reports that Noah's ark was constructed of gopher wood. Most translators have taken gopher to mean cypress, according to the National Lumber Manufacturers Association.

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# THE PROOF OF THE PUDDING IS IN THE EATING

By Miss HELEN KEAVENY

**M**EMORIES of Christmas at home are some of the best treasures of the human heart. Have you made your family gatherings at holiday times the kind your children will long remember? The picture of children, parents, and grandparents at mealtime enjoying close company, lively conversation, and good food is one to be cherished.

Plan your Christmas menu with attention to color, flavor, and texture contrasts, using seasonal foods. Keep traditional foods alive. This English Plum Pudding is a traditional Christmas dessert. It has a good fruit-nut texture to top off a dinner of either roast turkey, roast duckling or baked ham. The pudding is easily made and will delight your family when you proudly bring it, wreathed in flames, to the table. Do give it a try for your family's pleasure.

## English Plum Pudding

- 1 cup flour
- 1 teaspoon soda
- 1 teaspoon salt
- 1 teaspoon cinnamon
- $\frac{1}{4}$  teaspoon nutmeg
- $\frac{3}{4}$  teaspoon mace
- $1\frac{1}{2}$  cups finely cut raisins
- $1\frac{1}{2}$  cups currants, plumped
- $\frac{3}{4}$  cup finely cut citron
- $\frac{3}{4}$  cup finely cut candied orange and lemon peel
- $\frac{1}{2}$  cup chopped walnuts or pecans
- $1\frac{1}{2}$  cups coarse soft bread crumbs
- 2 cups ground suet ( $\frac{1}{2}$  pound)

- 1 cup brown sugar
- 3 eggs, beaten
- 6 tablespoons currant jelly
- $\frac{1}{4}$  cup fruit juice.

Sift together flour, soda, salt, cinnamon, nutmeg, and mace. Mix in raisins, currants, citron, candied peel, walnuts or pecans, and bread crumbs. Mix together the suet, sugar, eggs, currant jelly, and fruit juice. Blend in fruit and flour mixture. Pour into a well greased two-quart mold or into 2 one-quart molds. To steam, use a deep kettle which holds water to last through the entire steaming time or a deep-well cooker with a wire frame to hold the pudding mold. A steamer with holes in the bottom and a tight fitting lid may be used. Place the pudding in the steamer. Lay waxed paper loosely over mold to prevent steam which collects on cover from dropping into the pudding. Steam for 6 hours. Remove from steamer. Place pudding in oven to dry the top slightly. Loosen at one side to let in air. Turn out on hot serving dish. Soak lumps of sugar in orange or lemon extract, place around pudding. Touch match to one lump and the pudding is encircled with bright flames. Serve piping hot with hard sauce.

## Hard Sauce

- $\frac{1}{2}$  cup butter or margarine
  - 2 teaspoons vanilla
  - $1\frac{1}{2}$  cups sifted confectioners' sugar
- Cream butter until soft. Blend in sugar gradually. Add vanilla.

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